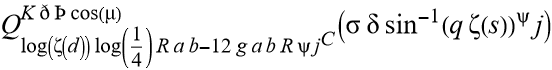
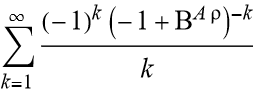
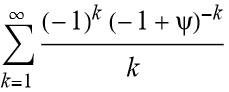
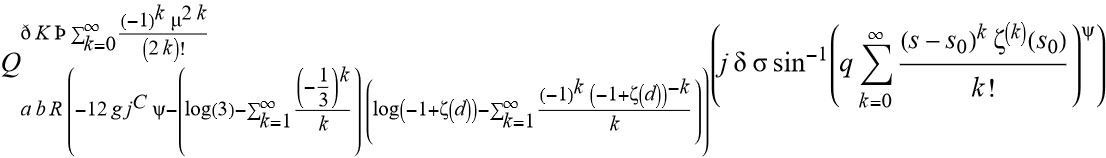
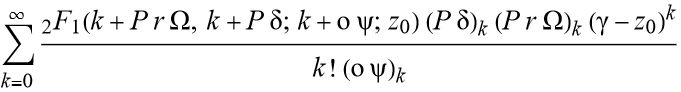
**Methods & Materials**

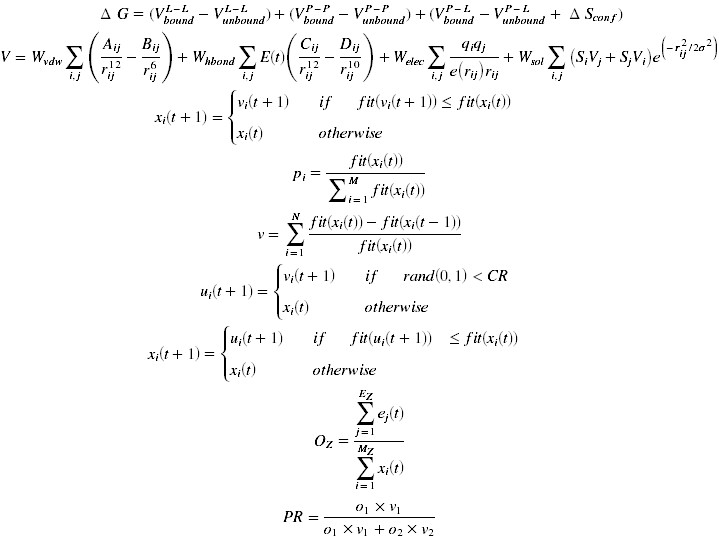
**QFT to QM Reductions, Quantum Thermodynamics, and Turing Machine Learning Ruled Quantum Homeopathy Variables for the Biogenetoligandorol Drug Designing Protocol.**

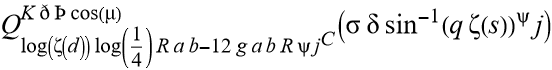
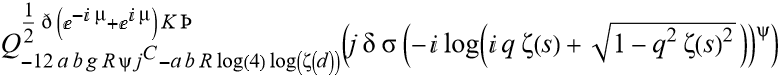
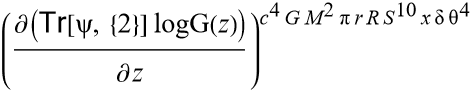
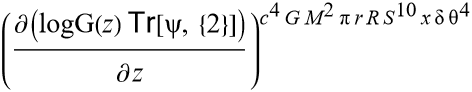
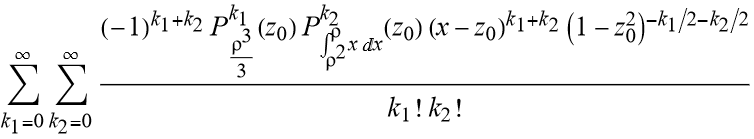
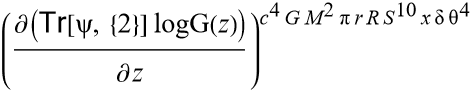
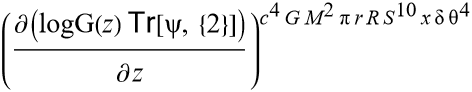
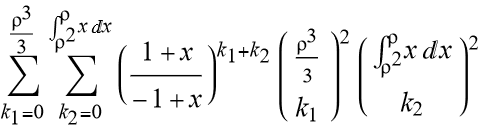
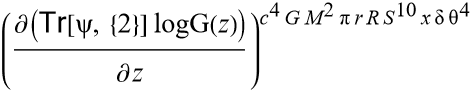
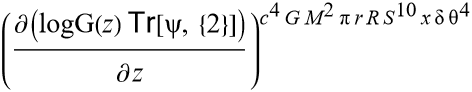
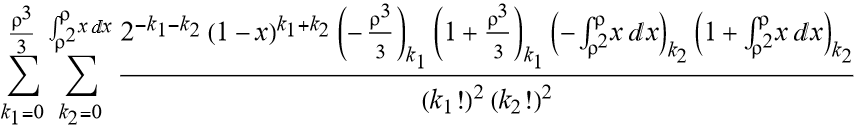
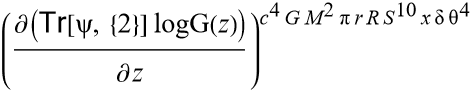
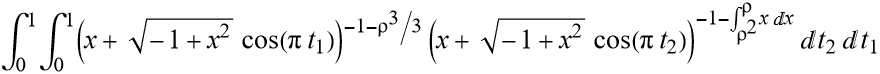
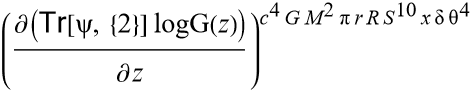
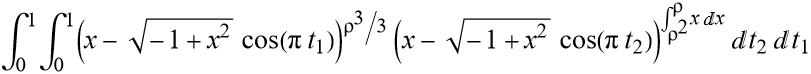
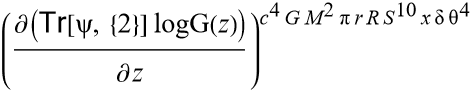
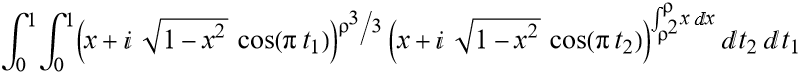
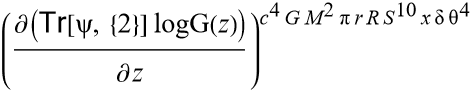
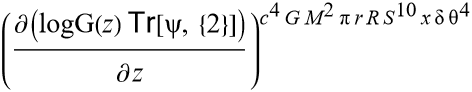
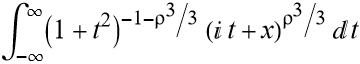
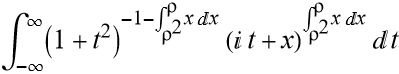
**Section 1. Composite systems, and the Partial trace of a maximally entangled state of density operators of the matrix sequences screening as GegenbauerC[ρ Α Β, ρ Β, ρ Α] ChebyshevT generalized inputs from the Arsenicum album, Pulsatilla nigricans, Nux vomica, Rhus toxicodendron, and Gelsemium sempervirens Homeopathy remedies including NuBEE Phyto – library, and COVID2019 targets identified between the consensus of 2019-nCoV and representative betacoronavirus genomes Supplementary Material (METHODS AND MATERIALS)).**

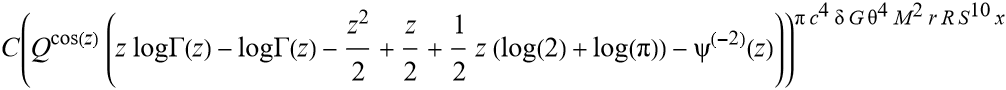
**Section 2. Biogenetoligandorol AI-heuristic (DFT) Generalized algorithm for Chern-Simons Weighted ℓneuron (ι): φ∘ D∘ rˆ2∘ S∘ r1 Topologies: A Quantum Hilbert space H attempt to put pharmacophoric elements back together: Density Operators (Matrices), Properties of Density Operators, and a Density matrix of a pure state in a Multiwavelet framework: QFT orthogonal polynomial Ansatzs over the Boson Field Operator for a triangle shaped fragmentation Scheme Supplementary Material (METHODS AND MATERIALS)).**

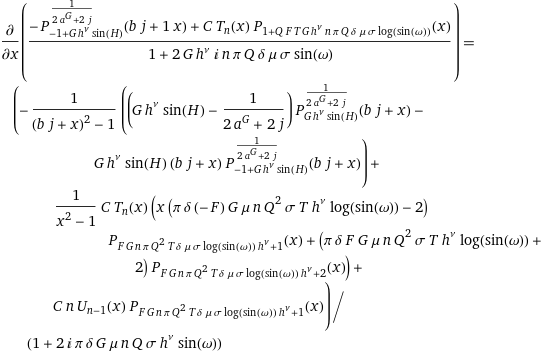
**Section 3. Entanglement-Breaking Effect of Homeopathy like to like phenomenon on Lagrangian driven Hartree–Fock functions with respect to an arbitrary orbital variation δφi: Algebraic Topology Foundations of a Supersymmetry Breaking Quantum Foam Ansantz for a tetrahedron shaped pharmacophoric ligand Supplementary Material (METHODS AND MATERIALS)).**

In general in this analysis, I follow the previously developed approach regarding Ganti’s chemoton concept via a Turing Machine translating process constructed by a greedy heuristic using a biologically informed scoring function for an innovative structure-based and ligand-based approach that relies on the knowledge of the target protein structure for all compounds tested, whereas ligand-based CADD exploits the knowledge of known active and inactive molecules through chemical similarity searches or construction of predictive, quantitative structure-activity relation (QSAR) models. A Quantum Homeopathy-oriented drug design prediction protocol is presented here for the calculation of the interaction energies which is at least qualitatively compatible with the available geometry data that are quantitatively testable in this double entanglement situation. The central goal of these Avogadro Number’s-oriented QFT to QM Reductions for Quantum Homeopathy-generated CADD protocol is to design compounds that bind tightly to the COVID19 protein targets with large reduction in free energy and improved DMPK/ADMET properties with reduced off-target effects after Turing Machine Ruled Translating [17-37] the quantum thermodynamics variables from Quantum Homeopathy COVID19 remedies into druggable geometric shapes and scaffolding. The key difference from conventional CADD protocol is the screening of virtual compound libraries, also known as virtual high-throughput screening (vHTS) via quantum thermodynamics and Avogadro Number’s-oriented HyperGeometric and ChebyshevT Functions for Black Hole Paradox Generalizations and Turing Machine Ruled Quantum Homeopathy Water Memory Entanglements for the Translation of COVID19 Homeopathy Remedies into druggable drug designs which could be validated in vitro and in vivo ideally through a cocrystal structure. Close to the learning equilibrium, this QFT to QM decrease compensates exactly for the thermodynamic entropy increase and such dynamics is formally described by a time-reversible Schrodinger-like equation [17,27-38] as an important consequence of the quantum thermodynamics where the equilibrium corresponds to the minimum of the thermodynamic potential over all variables, in a learning equilibrium of the free energy FðqÞ that can either be minimized or maximized with respect to the trainable variables q. If for a particular trainable variable the negative quantum entropy decrease due to learning is negligible, then the free energy is minimized, as in conventional thermodynamics, but if the quantum entropy decrease dominates the dynamics, then the free energy is maximized. Using this terminology introduced in the accompanying paper [18-39], I will call the quantum homeopathic variables of the first type neutral qðnÞ and those of the second type adaptable or active variables qðaÞ in this Quantum Homeopathy and pharmacophoric generation experiment. There is also a third type of quantum variables that are effectively constant as quantum core variables qðcÞ, that is, those that have already been well/trained and defined by the term “Quantum Homeopathy” means that changing the neutral values of these homeopath variables which does not affect the essential properties of the biological system, such as its QFT Loss Quantum Function (QLQF) corresponding to the regime of neutral evolution. When defining the Euclid Space framework I think in terms of scaling spaces Vn and wavelet spaces Wn. The scaling space V0 in 3D real-space is spanned by a set of orthogonal polynomials on the unit cube, and the spaces Vn for n>0 are obtained recursively by splitting the intervals of Vn−1 in 23 sub-cubes, then translate and dilate the original polynomial basis onto those intervals. This results in the ladder of scaling spaces V0⊂V1⊂…⊂Vn⊂… (1) which are approaching completeness in L2. The wavelet spaces Wn are defined as the orthogonal complement of the scaling space Vn in Vn,1 Wn⊕Vn, Vn,1, (2) which results in the following relation VN, V0⊕W0⊕W1 Turing Machine Rule WN−1.2.1 Hypergeometric1F1 [a, b, z] HypergeometricU [a, b, z] WhittakerM [k, m, z] WhittakerW [k, m, z] Hypergeometric0F1 [a, z] Hypergeometric0F1 [a, z] Hypergeometric2F1 Regularized [a, b, c, z] Functions can be approximated by a projection Pn onto the scaling space Vn, which I denote as f Turing Machine Rule Pnf, deffn, ∑lfnl, (4) where the latter sum runs over all the 23n cubes that make up a uniform grid at length scale 2−n and n refers to the atomic orbits from the Arsenicum album which was taken 1 every 2 h, was prescribed in response to the patient's presenting symptoms: a sensation of “sand in my mouth,” a heaviness in the right leg that felt “like wood,” stitching pain on the left of the chest, restlessness, anxiety, weakness and a constant thirst for sips of warm water. In this section, I adopt a phenomenological approach to model the average QFT Loss Quantum Function (QLQF) of a population of noninteracting fingerprints and string representations of molecular structure and/or properties (Bajorath 2001, 2002) from 2019-nCoV, bat-SL-CoVZC45, bat-SL-CoVZXC21, SARS-CoV, and SARS-CoV viruses (that is, selection only affects individuals). In the following sections (Supplementary Material (METHODS AND MATERIALS)) I construct a more general phenomenological model of Binary molecular fingerprints allowing the generated chemical identities to be unambiguously assigned by the presence or absence of features (Hutter, 2011). The features described in the below molecular fingerprint can vary in number and complexity (from hundreds of bits for structural fragments to thousands for connectivity fingerprints and millions for the complex pharmacophore-like fingerprints) (Auer and Bajorath, 2008), depending on the computational resources available and the intended application which is also relevant for the analysis of MTE in Major Transitions in Evolution and the Origin of Life. Molecule properties from NuBEE Phyto – library and COVID2019 targets which were identified between the consensus of 2019-nCoV and representative betacoronavirus genomes are considered here as GegenbauerC[ρ Α Β, ρ Β, ρ Α] ChebyshevT generalized inputs and thereby converted into numerical vectors of descriptors for analysis in order to ensure that descriptions of molecules have a constant length independent of size. Each position in the vector of descriptors encodes a well-defined property or feature that facilitates comparison by mathematical algorithms. In these sections (Supplementary Material (METHODS AND MATERIALS) I make an ansatz of a new triangulation of M, on the boson field operator from Hidden Entanglement Negativity Translations Entanglement Entropy\_T=|↑〉〈↑|⊗∑n|n+1〉〈n|eiφn+1t+|↓〉〈↓|⊗∑n|n−1〉 〈n|eiφn−1t, C=12[111−1] φnt∈{α,β} σ(t)=∑mm2Pm(t)−(∑mmPm(t))2, IPR(t)=1∑m(Pm(t))2. |Ψ(t)〉=∑n(an(t)|↑〉+bn(t)|↓〉)⊗|n〉. ρ(t)=|Ψ(t)〉〈Ψ(t)|=∑n,n′(an(t)|↑〉+bn(t)|↓〉)(a⁎(t)〈↑|+bn′⁎(t)〈↓|)⊗|n〉〈n′|. ρc(t)=∑m⟨m|ρ(t)|m⟩=∑m[|am(t)|2am(t)bm∗(t)am∗(t)bm (t)|bm(t)|2], Λ±=12±121−4ΓΩ+4|Π|2, Π=∑mam(t)bm⁎(t) SE(t)=−Λ+log2Λ+−Λ−log2Λ−. Tx=|↑〉〈↑|⊗∑m,n|m+1,n〉 〈m,n|eiφm+1,nt+|↓〉〈↓|⊗∑m,n|m−1,n〉 〈m,n|eiφm−1,nt,Ty=|↑〉〈↑|⊗∑m,n|m,n+1〉〈m,n|eiφm,n+1t+|↓〉 〈↓|⊗∑m,n|m,n−1〉〈m,n|eiφm,n−1t. φm,nt σ(t)=∑m,n(m2+n2)Pm,n(t)−(m2+n2Pm,n(t))2, ρc(t)=∑m,n⟨m,n|ρ(t)|m,n⟩=[ΓΠΠ∗Ω], |Ψ(t=0)〉=1/2(|↑〉+i|↓〉)⊗|0→〉, Γ,Ω→1/2 limt→∞Λand Uncertainty Quantum Relationships for Initial favorable Fuzzy Sphere shaped ligand poses that are identified by approximate positioning and scoring methods (shape and geometric complementarities). This initial screen reduces the conformational space over which the high-resolution docking search is applied. Ι then take the spatial slice at constant time equal to zero, and show that the center of an open sphere of rational radius r (SI Appendix XXXIX), (Group of Functions.1), for a family of functions F is a family oracle problem of relations (P f) f∈F, where F ranges over the family of anti-viral drugs F. ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) (P Ω r,P δ;ψ ο;γ) ==∂(DensityMatrix Tr[ψ,{2}])/∂A (log(-1+ΒA ρ)-) (log(-1+ψ)-)ρ   for (\[LeftBracketingBar]-1+ΒA ρ\[RightBracketingBar]>1 and \[LeftBracketingBar]-1+ψ\[RightBracketingBar]>1 and \[LeftBracketingBar]-1+ζ(d)\[RightBracketingBar]>1 and (not (0∈  and 1<=0<∞)) and 0!=1) LegendreQ[Log[Zeta[d] ] Log[1/4] R a b - 12 g a b R ψ j^C, K ð Þ Cos[μ], σ δ ArcSin[q Zeta[s] ] ^ψ j] LaguerreL[E 2 n - 8 G Pi σ^2 Sin[ω], 4 Pi r (R^2/k), x] LaguerreL[2 E n - 8 G Pi σ^2 Sin[ω], (4 Pi r R^2)/k, x] LegendreQ[-12 a b g j^C R ψ - 2 a b R Log[2] Log[Zeta[d] ], ð K Þ Cos[μ], j δ σ ArcSin[q Zeta[s] ] ^ψ] LaguerreL[2 E n - (4 I) (E^(-I ω) - E^(I ω)) G Pi σ^2, (4 Pi r R^2)/k, x] LegendreQ[-12 a b g j^C R ψ - a b R Log[4] Log[Zeta[d] ], (ð (E^(-I μ) + E^(I μ)) K Þ)/2, j δ σ (-I Log[I q Zeta[s] + Sqrt[1 - q^2 Zeta[s] ^2] ] )^ψ] Image(P δ,P r Ω;ο ψ;γ) Image+N x LaguerreL(1,0)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4) Image(P δ,P r Ω;ο ψ;γ) Image+1/2 N x2 (N LaguerreL(2,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+N LaguerreL(1,0)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+2 LaguerreL(1,1)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4)) Image(P δ,P r Ω;ο ψ;γ) Image+1/6 N x3 (N2 LaguerreL(3,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)3+3 GegenbauerC(0,1,0)(n,0,(E a)/4) (N2 LaguerreL(2,0)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+LaguerreL(1,2)(0,0))+3 N LaguerreL(2,1)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+N (N LaguerreL(1,0)(0,0) GegenbauerC(0,3,0)(n,0,(E a)/4)+3 LaguerreL(1,1)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4))) Image(P δ,P r Ω;ο ψ;γ) Image+1/24 N x4 (N3 LaguerreL(4,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)4+4 N2 LaguerreL(3,1)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)3+6 N GegenbauerC^(0,1,0)(n,0,(E a)/4)2 (N2 LaguerreL(3,0)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+LaguerreL(2,2)(0,0))+N (3 N2 LaguerreL(2,0)(0,0) GegenbauerC^(0,2,0)(n,0,(E a)/4)2+N (N LaguerreL(1,0)(0,0) GegenbauerC(0,4,0)(n,0,(E a)/4)+4 LaguerreL(1,1)(0,0) GegenbauerC(0,3,0)(n,0,(E a)/4))+6 LaguerreL(1,2)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4))+4 GegenbauerC(0,1,0)(n,0,(E a)/4) (N3 LaguerreL(2,0)(0,0) GegenbauerC(0,3,0)(n,0,(E a)/4)+3 N2 LaguerreL(2,1)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+LaguerreL(1,3)(0,0))) Image(P δ,P r Ω;ο ψ;γ) Image+O(x5)a Geometric algorithms were then applied here to identify binding sites through the High-resolution search and detection of cavities on SARS-CoV-2 protein’s surface involving the minimization of the ligand using standard molecular mechanics energy function followed by a Monte Carlo procedure for examining nearby torsional minima. According to the Function of Einstein's field functions (14), the Einstein tensor is proportional to the free energy-momentum tensor (EMT) given by

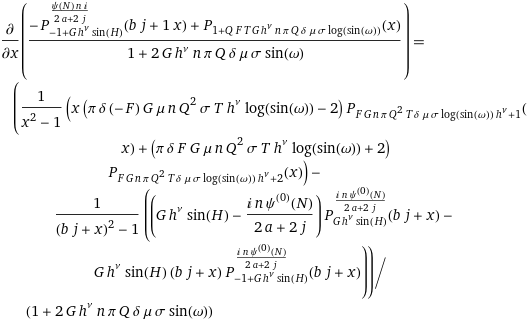
(MasterEquation1)

where Image(x) Image(P (Ω r),P δ;ψ ο;γ) Image(x) Image(P Ω r,P δ;ψ ο;γ) ImageImage(x) Image(P δ,P r Ω;ο ψ;γ) 1/2 π Image(x) cot(π π K ή cos(μ)) Image(P δ,P r Ω;ο ψ;γ) Image-(π Image(x) csc(π π K ή cos(μ)) Image(P δ,P r Ω;ο ψ;γ) Γ(-12 a b g R ψ jC+π K ή cos(μ)-a b R log(4) log(ζ(d))+1) Image)/(2 Γ(-12 a b g R ψ jC-π K ή cos(μ)-a b R log(4) log(ζ(d))+1)) when ν=u2(φ,λ)1/2(1−eiλeiφei(λ+φ))u3(θ,φ,λ)=(cosθ2− eiλsinθ2eiφsinθ2ei(φ+λ)cosθ2) for M=U43C34C24U23C34†U43U23 C12=(T⊗Pu3(−π/4,0,0))U12(1⊗u3(π/4,0,0))U12(1⊗P†) when P=σz T=P |ψ〉g1=cosπ8|0〉+sinπ8|1〉 |ψ〉g2=cos3π8|0〉+sin3π8|1〉 |ψ〉1=cosπ8|00〉+sinπ8|11〉 |ψ〉2=cos3π8|00〉+sin3π8|11〉 |ψ〉=cosθ1cosθ2|0000〉+cosθ1sinθ2|0011〉+sinθ1cosθ2|1100〉 +sinθ1sinθ2|1111〉. and when UI|ψ〉=cosθ1cosθ2|0000〉+cosθ1sinθ2|0110〉+sinθ1cosθ2|1001〉 +sinθ1sinθ2|1111〉 when ΔG(p,q)=∑jpjqj F(ρ1,ρ2)=Trρ1ρ2ρ1 |ψ〉g1=cosπ3|0〉+sinπ3|1〉 |ψ〉1=cosπ3|00〉+sinπ3|11〉 e−γ(t1+t2)/2〈σx〉=cosθ1cosθ2〈σx〉1−2e−γ(t1+t2)(1−a) =(2a−1)cosθ11−2e−γt2(1−a)=(2a−1)cosθ2. Applying gab to Einstein's field functions, Ι obtain gab (Rab−12gabR) where R denotes the Ricci scalar of spheres is then filtered to include only the largest sphere associated with each target surface atom. In metric (27), Ι have R, 0, therefore, T, 0. and the Einstein tensor can be expressed as follows: Gμν where TNμν is the EMT of the null radiation, and TMμν represents the EMT of the matter field of invaginations for target surface. When I discuss the static solutions in general relativity, the matter field source is the Chemical space of Turing Machine Ruled Fuzzy Spheres calculated all over the entire surface such that each sphere touches the molecular surface at multiple points. In this study I discuss the non-static solutions including the fact that geometric descriptors are method dependent and subjective, the target protein is typically rigid, and the methods are often tied to a generalized concept of a binding pocket and may miss unorthodox binding sites within channels or on protein-protein interaction interfaces. Therefore, the source for Quantum Homeopathy Medicines is the null radiation over the entire surface such that each sphere touches the molecular surface at two points. The EMT of this metric (27) is given by Image(x) Image(x) ==  for (not (0∈  and -∞<0<=-1))Image(x) Image(x) ==Image Image   for (ρ3/3∈  and ρ>=0 and ∈  and >=0)Image(x) Image(x) ==  for (ρ3/3∈  and ρ>=0 and ∈  and >=0)Image(x) Image(x) == for Re(x)>0Image(x) Image(x) == for (ρ3/3∈  and ρ>=0 and ∈  and >=0)Image(x) Image(x) == for (ρ3/3∈  and ρ>=0 and ∈  and >=0)Image(x) Image(x) ==(1/π2)Image  ()  for (ρ3/3∈  and ρ>=0 and ∈  and >=0)

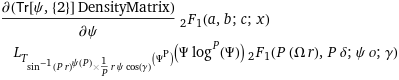
for SphericalHarmonicY [l, m, θ, ϕ] (I/2 (-EulerGamma^(-1))^((E n)/2 - (4 Pi r R^8)/k) g^((-(E n))/2 + (4 Pi r R^8)/k) M^2 Pi^2 r R^9 x ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) LaguerreL[GegenbauerC[n, N x, (a E)/4], x] Sinh[x] L'[(G M^2 R ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) Sinh[x] )/8] )/k^2 - ((-EulerGamma^(-1))^((E n)/2 - (4 Pi r R^8)/k) g^((-(E n))/2 + (4 Pi r R^8)/k) M^2 Pi r R^9 x ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) LaguerreL[GegenbauerC[n, N x, (a E)/4], x] Log[EulerGamma] Sinh[x] L'[(G M^2 R ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) Sinh[x] )/8] )/(2 k^2) - ((-EulerGamma^(-1))^((E n)/2 - (4 Pi r R^8)/k) g^((-(E n))/2 + (4 Pi r R^8)/k) M^2 Pi r R^9 x ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) LaguerreL[GegenbauerC[n, N x, (a E)/4], x] Log[g] Sinh[x] L'[(G M^2 R ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) Sinh[x] )/8] )/(2 k^2) + (I/2 c^4 (-EulerGamma^(-1))^((E n)/2 - (4 Pi r R^8)/k) g^((-(E n))/2 + (4 Pi r R^8)/k) G M^4 Pi^3 r^2 R^10 S^10 x^2 δ θ^4 ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) LaguerreL[GegenbauerC[n, N x, (a E)/4], x] Log[C[Q^Cos[z] LogBarnesG[z] ] ] Sinh[x] L'[(G M^2 R ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) Sinh[x] )/8] )/k^2 - (c^4 (-EulerGamma^(-1))^((E n)/2 - (4 Pi r R^8)/k) g^((-(E n))/2 + (4 Pi r R^8)/k) G M^4 Pi^2 r^2 R^10 S^10 x^2 δ θ^4 ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) LaguerreL[GegenbauerC[n, N x, (a E)/4], x] Log[EulerGamma] Log[C[Q^Cos[z] LogBarnesG[z] ] ] Sinh[x] L'[(G M^2 R ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) Sinh[x] )/8] )/(2 k^2) - (c^4 (-EulerGamma^(-1))^((E n)/2 - (4 Pi r R^8)/k) g^((-(E n))/2 + (4 Pi r R^8)/k) G M^4 Pi^2 r^2 R^10 S^10 x^2 δ θ^4 ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) LaguerreL[GegenbauerC[n, N x, (a E)/4], x] Log[g] Log[C[Q^Cos[z] LogBarnesG[z] ] ] Sinh[x] L'[(G M^2 R ArcSin[r] ^4 C[Q^Cos[z] LogBarnesG[z] ] ^(c^4 G M^2 Pi r R S^10 x δ θ^4) Sinh[x] )/8] )/(2 k^2)Hypergeometric2F1 [O (log|G| G′| 𝜎̂ℎˆ(uir) Uµ (x)), O (log|G| G′| 𝜎̂ℎˆ(uir) Uµ (x)) Δ (g) n,2n-4πrRˆ2/k (RMSD) ˆ6–√iEM (ABC), CX ⊕ Φo21/22π,A2 (D, dλ2) (g) D f (z) g (z) \*dλ2 (z),8, π, G, e] LegendreP [n, x] ZernikeR [n, m, r] LegendreP [n, m, x] HermiteH [n, x] JacobiP [A ⊗ (B ⊗ C) → B ⊗ (C ⊗ A) G: r, s: G r / s /G (0)C ∆ −−−−→ C ⊗ C y ∆ y id⊗∆ C ⊗ C ∆⊗id −−−−→ C ⊗ C ⊗ C] LaguerreL [n, x] Tuu, Tuϕ, Tuθ, Tθϕ, Tϕϕ for Image(x) log(Image) π Image(x) (c4 δ G θ4 M2 r R S10 x log(C(logG(z) Qcos(z)))+2 I \[LeftFloor]1/2 (1-c4 G M2 r R S10 x δ θ4 arg(C(Qcos(z) logG(z))))\[RightFloor]) π c4 δ G θ4 M2 r R S10 x Image(x) log(C(logG(z) Qcos(z)))+2 I π Image(x) \[LeftFloor]1/2-1/2 c4 G M2 r R S10 x δ θ4 arg(C(Qcos(z) logG(z)))⌋{{π c4 δ G θ4 M2 r R S10 x log(C(logG(z) Qcos(z)))+π c4 δ G θ4 M2 N r R S10 x2 LaguerreL(1,0)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4) log(C(logG(z) Qcos(z)))+1/2 π c4 δ G θ4 M2 N r R S10 x3 log(C(logG(z) Qcos(z))) (N LaguerreL(2,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+N LaguerreL(1,0)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+2 LaguerreL(1,1)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4))+1/6 π c4 δ G θ4 M2 N r R S10 x4 log(C(logG(z) Qcos(z))) (N2 LaguerreL(3,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)3+3 GegenbauerC(0,1,0)(n,0,(E a)/4) (N2 LaguerreL(2,0)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+LaguerreL(1,2)(0,0))+3 N LaguerreL(2,1)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+N (N LaguerreL(1,0)(0,0) GegenbauerC(0,3,0)(n,0,(E a)/4)+3 LaguerreL(1,1)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)))+1/24 π c4 δ G θ4 M2 N r R S10 x5 log(C(logG(z) Qcos(z))) (N3 LaguerreL(4,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)4+4 N2 LaguerreL(3,1)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)3+6 N GegenbauerC^(0,1,0)(n,0,(E a)/4)2 (N2 LaguerreL(3,0)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+LaguerreL(2,2)(0,0))+N (3 N2 LaguerreL(2,0)(0,0) GegenbauerC^(0,2,0)(n,0,(E a)/4)2+N (N LaguerreL(1,0)(0,0) GegenbauerC(0,4,0)(n,0,(E a)/4)+4 LaguerreL(1,1)(0,0) GegenbauerC(0,3,0)(n,0,(E a)/4))+6 LaguerreL(1,2)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4))+4 GegenbauerC(0,1,0)(n,0,(E a)/4) (N3 LaguerreL(2,0)(0,0) GegenbauerC(0,3,0)(n,0,(E a)/4)+3 N2 LaguerreL(2,1)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+LaguerreL(1,3)(0,0)))+O(x6)} (xlog() when

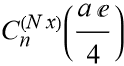
(MasterEquation2)

when Image(x) log(C(logG(hν) Qcos(z) Image exp(1/(360360 x12) π b c4 δ G θ4 j M2 r R S10 (27720 b12 j12-30030 b11 j11 x+32760 b10 j10 x2-36036 b9 j9 x3+40040 b8 j8 x4-45045 b7 j7 x5+51480 b6 j6 x6-60060 b5 j5 x7+72072 b4 j4 x8-90090 b3 j3 x9+120120 b2 j2 x10-180180 b j x11+360360 x12))))log(C(logG(hν) Qcos(z)))+x (N LaguerreL(1,0)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4) log(C(logG(hν) Qcos(z)))+(π c4 δ G θ4 M2 r R S10 log(b j) logG(hν) Qcos(z) C′(logG(hν) Qcos(z)))/C(logG(hν) Qcos(z)))+x2 ((π c4 δ G θ4 M2 N r R S10 LaguerreL(1,0)(0,0) log(b j) logG(hν) Qcos(z) GegenbauerC(0,1,0)(n,0,(E a)/4) C′(logG(hν) Qcos(z)))/C(logG(hν) Qcos(z))+1/2 (N2 LaguerreL(2,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+N2 LaguerreL(1,0)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+2 N LaguerreL(1,1)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4)) log(C(logG(hν) Qcos(z)))+1/2 ((π c4 δ G θ4 M2 r R S10 logG(hν) Qcos(z) (π b c4 δ G θ4 j M2 r R S10 log2(b j) logG(hν) Qcos(z) C′′(logG(hν) Qcos(z))+π b c4 δ G θ4 j M2 r R S10 log2(b j) C′(logG(hν) Qcos(z))+2 C′(logG(hν) Qcos(z))))/(b j C(logG(hν) Qcos(z)))-(π2 c8 δ2 G2 θ8 M4 r2 R2 S20 log2(b j) logG(h^ν)2 Q2 cos(z) C^′(logG(h^ν) Q^cos(z))2)/C(logG(h^ν) Q^cos(z))2))+((c4 G M2 π r R S10 δ θ4 log(b j) logG(hν) C′(Qcos(z) logG(hν)) (LaguerreL(2,0)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)2 N2+LaguerreL(1,0)(0,0) GegenbauerC(0,2,0)(n,0,(a E)/4) N2+2 LaguerreL(1,1)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4) N) Qcos(z))/(2 C(Qcos(z) logG(hν)))+(b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))2 log3(b j) logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)-3 c4 G M2 π r R S10 δ θ4 C(Q^cos(z) logG(h^ν))2 logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)+6 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))2 log(b j) logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)-3 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Qcos(z) logG(hν)) log3(b j) logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2 Q2 cos(z)-6 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Qcos(z) logG(hν)) log(b j) logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2 Q2 cos(z)+3 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))2 log3(b j) logG(h^ν)2 C′′(Qcos(z) logG(hν)) Q2 cos(z)+6 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))2 log(b j) logG(h^ν)2 C′′(Qcos(z) logG(hν)) Q2 cos(z)+2 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 log3(b j) logG(h^ν)3 C^′(Q^cos(z) logG(h^ν))3 Q3 cos(z)-3 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Qcos(z) logG(hν)) log3(b j) logG(h^ν)3 C′(Qcos(z) logG(hν)) C′′(Qcos(z) logG(hν)) Q3 cos(z)+b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))2 log3(b j) logG(h^ν)3 C(3)(Qcos(z) logG(hν)) Q3 cos(z))/(6 b2 j2 C(Q^cos(z) logG(h^ν))3)+1/2 N ((c4 G M2 π Qcos(z) r R S10 δ θ4 logG(hν) (b c4 G j M2 π r R S10 δ θ4 log2(b j) logG(hν) C′′(Qcos(z) logG(hν)) Qcos(z)+b c4 G j M2 π r R S10 δ θ4 log2(b j) C′(Qcos(z) logG(hν))+2 C′(Qcos(z) logG(hν))))/(b j C(Qcos(z) logG(hν)))-(c8 G2 M4 π2 Q2 cos(z) r2 R2 S20 δ2 θ8 log2(b j) logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2)/C(Q^cos(z) logG(h^ν))2) LaguerreL(1,0)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4)+1/6 log(C(Qcos(z) logG(hν))) (LaguerreL(3,0)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)3 N3+3 LaguerreL(2,0)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4) GegenbauerC(0,2,0)(n,0,(a E)/4) N3+LaguerreL(1,0)(0,0) GegenbauerC(0,3,0)(n,0,(a E)/4) N3+3 LaguerreL(2,1)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)2 N2+3 LaguerreL(1,1)(0,0) GegenbauerC(0,2,0)(n,0,(a E)/4) N2+3 LaguerreL(1,2)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4) N)) x3+((c4 G M2 π r R S10 δ θ4 log(b j) logG(hν) C′(Qcos(z) logG(hν)) (LaguerreL(3,0)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)3 N3+3 LaguerreL(2,0)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4) GegenbauerC(0,2,0)(n,0,(a E)/4) N3+LaguerreL(1,0)(0,0) GegenbauerC(0,3,0)(n,0,(a E)/4) N3+3 LaguerreL(2,1)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)2 N2+3 LaguerreL(1,1)(0,0) GegenbauerC(0,2,0)(n,0,(a E)/4) N2+3 LaguerreL(1,2)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4) N) Qcos(z))/(6 C(Qcos(z) logG(hν)))+(b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Q^cos(z) logG(h^ν))3 log4(b j) logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)+12 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))3 logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)+8 c4 G M2 π r R S10 δ θ4 C(Q^cos(z) logG(h^ν))3 logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)+12 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))3 log2(b j) logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)-12 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))3 log(b j) logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)-7 b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Q^cos(z) logG(h^ν))2 log4(b j) logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2 Q2 cos(z)-12 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))2 logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2 Q2 cos(z)-36 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))2 log2(b j) logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2 Q2 cos(z)+12 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))2 log(b j) logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2 Q2 cos(z)+7 b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Q^cos(z) logG(h^ν))3 log4(b j) logG(h^ν)2 C′′(Qcos(z) logG(hν)) Q2 cos(z)+12 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))3 logG(h^ν)2 C′′(Qcos(z) logG(hν)) Q2 cos(z)+36 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))3 log2(b j) logG(h^ν)2 C′′(Qcos(z) logG(hν)) Q2 cos(z)-12 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))3 log(b j) logG(h^ν)2 C′′(Qcos(z) logG(hν)) Q2 cos(z)+12 b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Qcos(z) logG(hν)) log4(b j) logG(h^ν)3 C^′(Q^cos(z) logG(h^ν))3 Q3 cos(z)+24 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Qcos(z) logG(hν)) log2(b j) logG(h^ν)3 C^′(Q^cos(z) logG(h^ν))3 Q3 cos(z)-18 b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Q^cos(z) logG(h^ν))2 log4(b j) logG(h^ν)3 C′(Qcos(z) logG(hν)) C′′(Qcos(z) logG(hν)) Q3 cos(z)-36 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))2 log2(b j) logG(h^ν)3 C′(Qcos(z) logG(hν)) C′′(Qcos(z) logG(hν)) Q3 cos(z)+6 b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Q^cos(z) logG(h^ν))3 log4(b j) logG(h^ν)3 C(3)(Qcos(z) logG(hν)) Q3 cos(z)+12 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))3 log2(b j) logG(h^ν)3 C(3)(Qcos(z) logG(hν)) Q3 cos(z)-6 b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 log4(b j) logG(h^ν)4 C^′(Q^cos(z) logG(h^ν))4 Q4 cos(z)-3 b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Q^cos(z) logG(h^ν))2 log4(b j) logG(h^ν)4 C^′′(Q^cos(z) logG(h^ν))2 Q4 cos(z)+12 b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Qcos(z) logG(hν)) log4(b j) logG(h^ν)4 C^′(Q^cos(z) logG(h^ν))2 C′′(Qcos(z) logG(hν)) Q4 cos(z)-4 b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Q^cos(z) logG(h^ν))2 log4(b j) logG(h^ν)4 C′(Qcos(z) logG(hν)) C(3)(Qcos(z) logG(hν)) Q4 cos(z)+b3 c16 G4 j3 M8 π4 r4 R4 S40 δ4 θ16 C(Q^cos(z) logG(h^ν))3 log4(b j) logG(h^ν)4 C(4)(Qcos(z) logG(hν)) Q4 cos(z))/(24 b3 j3 C(Q^cos(z) logG(h^ν))4)+(N (b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))2 log3(b j) logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)-3 c4 G M2 π r R S10 δ θ4 C(Q^cos(z) logG(h^ν))2 logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)+6 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))2 log(b j) logG(hν) C′(Qcos(z) logG(hν)) Qcos(z)-3 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Qcos(z) logG(hν)) log3(b j) logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2 Q2 cos(z)-6 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Qcos(z) logG(hν)) log(b j) logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2 Q2 cos(z)+3 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))2 log3(b j) logG(h^ν)2 C′′(Qcos(z) logG(hν)) Q2 cos(z)+6 b c8 G2 j M4 π2 r2 R2 S20 δ2 θ8 C(Q^cos(z) logG(h^ν))2 log(b j) logG(h^ν)2 C′′(Qcos(z) logG(hν)) Q2 cos(z)+2 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 log3(b j) logG(h^ν)3 C^′(Q^cos(z) logG(h^ν))3 Q3 cos(z)-3 b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Qcos(z) logG(hν)) log3(b j) logG(h^ν)3 C′(Qcos(z) logG(hν)) C′′(Qcos(z) logG(hν)) Q3 cos(z)+b2 c12 G3 j2 M6 π3 r3 R3 S30 δ3 θ12 C(Q^cos(z) logG(h^ν))2 log3(b j) logG(h^ν)3 C(3)(Qcos(z) logG(hν)) Q3 cos(z)) LaguerreL(1,0)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4))/(6 b2 j2 C(Q^cos(z) logG(h^ν))3)+1/4 ((c4 G M2 π Qcos(z) r R S10 δ θ4 logG(hν) (b c4 G j M2 π r R S10 δ θ4 log2(b j) logG(hν) C′′(Qcos(z) logG(hν)) Qcos(z)+b c4 G j M2 π r R S10 δ θ4 log2(b j) C′(Qcos(z) logG(hν))+2 C′(Qcos(z) logG(hν))))/(b j C(Qcos(z) logG(hν)))-(c8 G2 M4 π2 Q2 cos(z) r2 R2 S20 δ2 θ8 log2(b j) logG(h^ν)2 C^′(Q^cos(z) logG(h^ν))2)/C(Q^cos(z) logG(h^ν))2) (LaguerreL(2,0)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)2 N2+LaguerreL(1,0)(0,0) GegenbauerC(0,2,0)(n,0,(a E)/4) N2+2 LaguerreL(1,1)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4) N)+1/24 log(C(Qcos(z) logG(hν))) (LaguerreL(4,0)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)4 N4+3 LaguerreL(2,0)(0,0) GegenbauerC^(0,2,0)(n,0,(a E)/4)2 N4+6 LaguerreL(3,0)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)2 GegenbauerC(0,2,0)(n,0,(a E)/4) N4+4 LaguerreL(2,0)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4) GegenbauerC(0,3,0)(n,0,(a E)/4) N4+LaguerreL(1,0)(0,0) GegenbauerC(0,4,0)(n,0,(a E)/4) N4+4 LaguerreL(3,1)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)3 N3+12 LaguerreL(2,1)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4) GegenbauerC(0,2,0)(n,0,(a E)/4) N3+4 LaguerreL(1,1)(0,0) GegenbauerC(0,3,0)(n,0,(a E)/4) N3+6 LaguerreL(2,2)(0,0) GegenbauerC^(0,1,0)(n,0,(a E)/4)2 N2+6 LaguerreL(1,2)(0,0) GegenbauerC(0,2,0)(n,0,(a E)/4) N2+4 LaguerreL(1,3)(0,0) GegenbauerC(0,1,0)(n,0,(a E)/4) N)) x4+O(x5) for (C n ChebyshevU[-1 + n, x] LegendreP[1 + F G h^ν n Pi Q^2 T δ μ σ Log[Sin[ω] ], x] + (C ChebyshevT[n, x] (x LegendreP[1 + F G h^ν n Pi Q^2 T δ μ σ Log[Sin[ω] ], x] (-2 - F G h^ν n Pi Q^2 T δ μ σ Log[Sin[ω] ]) + LegendreP[2 + F G h^ν n Pi Q^2 T δ μ σ Log[Sin[ω] ], x] (2 + F G h^ν n Pi Q^2 T δ μ σ Log[Sin[ω] ])))/(-1 + x^2) - (-(G h^ν (b j + x) LegendreP[-1 + G h^ν Sin[H], (2 a^G + 2 j)^(-1), b j + x] Sin[H]) + LegendreP[G h^ν Sin[H], (2 a^G + 2 j)^(-1), b j + x] (-(2 a^G + 2 j)^(-1) + G h^ν Sin[H]))/(-1 + (b j + x)^2))/(1 + (2 I) G h^ν n Pi Q δ μ σ Sin[ω]) n G(n, a, x) = 2 (n + a − 1) x G(n − 1, a, x) − (n + 2 a − 2) G(n − 2, a, x) at n = 1, 2,., with initial G(0, a, x) = 1 and G(1, a, x) = 2 a x. In the initial step of our constructive considerations we shall guarantee the validity of our above-mentioned matrix Schrodinger Eq. (1) by assuming its formal coincidence with the truncated version of recurrences (3). This means that we shall just use the following input form of the bound-state eigenvector when for

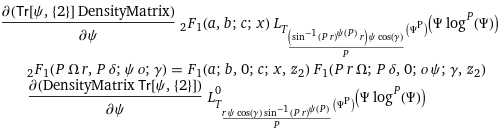
(MasterEquation3)

for 1/P r ψ2 (b j+x) logG(r hν) Hypergeometric1F1[ή(1/4) cosh((21 a n)/22)] Image(γ) ((x LegendreP[1 + F G h^ν n Pi Q^2 T δ μ σ Log[Sin[ω] ], x] (-2 - F G h^ν n Pi Q^2 T δ μ σ Log[Sin[ω] ]) + LegendreP[2 + F G h^ν n Pi Q^2 T δ μ σ Log[Sin[ω] ], x] (2 + F G h^ν n Pi Q^2 T δ μ σ Log[Sin[ω] ]))/(-1 + x^2) - (-(G h^ν (b j + x) LegendreP[-1 + G h^ν Sin[H], (I n PolyGamma[0, N])/(2 a + 2 j), b j + x] Sin[H]) + LegendreP[G h^ν Sin[H], (I n PolyGamma[0, N])/(2 a + 2 j), b j + x] ((-I n PolyGamma[0, N])/(2 a + 2 j) + G h^ν Sin[H]))/(-1 + (b j + x)^2))/(1 + 2 G h^ν n Pi Q δ μ σ Sin[ω]) where |ψ (N) n i = h0|ψ (N) n i = G(0, a, En) h1|ψ (N) n i = G(1, a, En). hN − 1|ψ (N) n i = G(N − 1, a, En) Hypergeometric1F1[Cosh[(21 a n)/22] Þ[1/4], Q^4 Sin[b], ArcSin[z] Log[23] ] ZernikeR[LegendreP[LaguerreL[n λ, 6.02214076\*^23 m ρ ψ, I E^λ], x], (-1 + h N | m δ θ^10 Ψ Log[y] ^2 PolyGamma[0, N])/1000000000000000000000000000, r]. When the rotation parameter a vanishes, metric (27) recoveries to the Vaidya metric, and the EMT returns to TNμν, Tuu, −m˙4πr2. According to Petrov classification [24], the Vaidya–Kerr black-hole metric (-(1/(g γ)))^((E n)/2 - (4 Pi r R^8)/k) + c^4 G M^2 Pi r R S^10 x (-(1/(g γ)))^((E n)/2 - (4 Pi r R^8)/k) δ θ^4 Derivative[1, 0] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + (c^4 G M^2 Pi r R S^10 x^2 (-(1/(g γ)))^((E n)/2 - (4 Pi r R^8)/k) δ θ^4 (8 Derivative[1, 1] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 4 c^4 G M^2 Pi r R S^10 δ θ^4 Derivative[2, 0] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ^2 + G M^2 R ArcSin[r] ^4 Derivative[1, 0] [LaguerreL] [0, 0] Derivative[0, 1, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 4 c^4 G M^2 Pi r R S^10 δ θ^4 Derivative[1, 0] [LaguerreL] [0, 0] Derivative[0, 2, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/8 + x^3 (-(1/(g γ)))^((E n)/2 - (4 Pi r R^8)/k) ((c^4 G M^2 Pi r R S^10 δ θ^4 Derivative[1, 2] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] )/2 + (c^8 G^2 M^4 Pi^2 r^2 R^2 S^20 δ^2 θ^8 Derivative[2, 1] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ^2)/2 + (c^12 G^3 M^6 Pi^3 r^3 R^3 S^30 δ^3 θ^12 Derivative[3, 0] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ^3)/6 + (Derivative[1, 1] [LaguerreL] [0, 0] (c^4 G^2 M^4 Pi r R^2 S^10 δ θ^4 ArcSin[r] ^4 Derivative[0, 1, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 4 c^8 G^2 M^4 Pi^2 r^2 R^2 S^20 δ^2 θ^8 Derivative[0, 2, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/8 + (c^4 G M^2 Pi r R S^10 δ θ^4 Derivative[2, 0] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] (c^4 G^2 M^4 Pi r R^2 S^10 δ θ^4 ArcSin[r] ^4 Derivative[0, 1, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 4 c^8 G^2 M^4 Pi^2 r^2 R^2 S^20 δ^2 θ^8 Derivative[0, 2, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/8 + (Derivative[1, 0] [LaguerreL] [0, 0] (3 c^4 G^3 M^6 Pi r R^3 S^10 δ θ^4 ArcSin[r] ^8 Derivative[0, 1, 2] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 24 c^8 G^3 M^6 Pi^2 r^2 R^3 S^20 δ^2 θ^8 ArcSin[r] ^4 Derivative[0, 2, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 64 c^12 G^3 M^6 Pi^3 r^3 R^3 S^30 δ^3 θ^12 Derivative[0, 3, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/384) + x^4 (-(1/(g γ)))^((E n)/2 - (4 Pi r R^8)/k) ((c^4 G M^2 Pi r R S^10 δ θ^4 Derivative[1, 3] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] )/6 + (c^8 G^2 M^4 Pi^2 r^2 R^2 S^20 δ^2 θ^8 Derivative[2, 2] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ^2)/4 + (c^12 G^3 M^6 Pi^3 r^3 R^3 S^30 δ^3 θ^12 Derivative[3, 1] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ^3)/6 + (c^16 G^4 M^8 Pi^4 r^4 R^4 S^40 δ^4 θ^16 Derivative[4, 0] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ^4)/24 + (Derivative[1, 2] [LaguerreL] [0, 0] (c^4 G^2 M^4 Pi r R^2 S^10 δ θ^4 ArcSin[r] ^4 Derivative[0, 1, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 4 c^8 G^2 M^4 Pi^2 r^2 R^2 S^20 δ^2 θ^8 Derivative[0, 2, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/16 + (c^4 G M^2 Pi r R S^10 δ θ^4 Derivative[2, 1] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] (c^4 G^2 M^4 Pi r R^2 S^10 δ θ^4 ArcSin[r] ^4 Derivative[0, 1, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 4 c^8 G^2 M^4 Pi^2 r^2 R^2 S^20 δ^2 θ^8 Derivative[0, 2, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/8 + (c^8 G^2 M^4 Pi^2 r^2 R^2 S^20 δ^2 θ^8 Derivative[3, 0] [LaguerreL] [0, 0] Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ^2 (c^4 G^2 M^4 Pi r R^2 S^10 δ θ^4 ArcSin[r] ^4 Derivative[0, 1, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 4 c^8 G^2 M^4 Pi^2 r^2 R^2 S^20 δ^2 θ^8 Derivative[0, 2, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/16 + (Derivative[1, 1] [LaguerreL] [0, 0] (3 c^4 G^3 M^6 Pi r R^3 S^10 δ θ^4 ArcSin[r] ^8 Derivative[0, 1, 2] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 24 c^8 G^3 M^6 Pi^2 r^2 R^3 S^20 δ^2 θ^8 ArcSin[r] ^4 Derivative[0, 2, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 64 c^12 G^3 M^6 Pi^3 r^3 R^3 S^30 δ^3 θ^12 Derivative[0, 3, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/384 + (Derivative[2, 0] [LaguerreL] [0, 0] ((c^4 G^2 M^4 Pi r R^2 S^10 δ θ^4 ArcSin[r] ^4 Derivative[0, 1, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 4 c^8 G^2 M^4 Pi^2 r^2 R^2 S^20 δ^2 θ^8 Derivative[0, 2, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] )^2/64 + (c^4 G M^2 Pi r R S^10 δ θ^4 Derivative[0, 1, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] (3 c^4 G^3 M^6 Pi r R^3 S^10 δ θ^4 ArcSin[r] ^8 Derivative[0, 1, 2] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 24 c^8 G^3 M^6 Pi^2 r^2 R^3 S^20 δ^2 θ^8 ArcSin[r] ^4 Derivative[0, 2, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 64 c^12 G^3 M^6 Pi^3 r^3 R^3 S^30 δ^3 θ^12 Derivative[0, 3, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/192))/2 + (Derivative[1, 0] [LaguerreL] [0, 0] (64 c^4 G^2 M^4 Pi r R^2 S^10 δ θ^4 ArcSin[r] ^4 Derivative[0, 1, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + c^4 G^4 M^8 Pi r R^4 S^10 δ θ^4 ArcSin[r] ^12 Derivative[0, 1, 3] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 12 c^8 G^4 M^8 Pi^2 r^2 R^4 S^20 δ^2 θ^8 ArcSin[r] ^8 Derivative[0, 2, 2] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 64 c^12 G^4 M^8 Pi^3 r^3 R^4 S^30 δ^3 θ^12 ArcSin[r] ^4 Derivative[0, 3, 1] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] + 128 c^16 G^4 M^8 Pi^4 r^4 R^4 S^40 δ^4 θ^16 Derivative[0, 4, 0] [GegenbauerC] [Q^Cos[z] LogBarnesG[z], 0, 0] ))/3072) + O[x] ^5LaguerreL [GegenbauerC [Q^Cos[z] LogBarnesG[z], c^4 Pi δ θ^4 G M^2 R (S^10 r) x, ArcSin[r] ^4 G M^2 R (Sinh[x] /8)], x] (-(g γ)^(-1))^((1/2) E n - (4 Pi r R^8)/k) for its PowerExpand[(-(1/(g γ)))^((E n)/2 - (4 Pi r R^8)/k) LaguerreL[GegenbauerC[Q^Cos[z] LogBarnesG[z], c^4 G M^2 Pi r R S^10 x δ θ^4, (G M^2 R ArcSin[r] ^4 Sinh[x] )/8], x] make random changes to either ligand being docked or to its target binding site and could be translational or rotational in the case of ligand or random conformational sampling of residue side-chains in the target binding site. The consensus scoring function used in the study was implemented in DockThor program and included three scoring functions: (1) empirical scoring function, (2) a knowledge-based scoring function, and (3) a force-field function. These algorithms frequently use grids to describe molecular surface or 3D structure of protein from Small Molecules and Target Protein for Docking Simulations. The boundary of a pocket is determined by rolling a “spherical probe” over the grid surface. Algorithms such as DockThor that use heuristics to focus on regions of conformational space that are likely to contain good scoring ligand poses were also used here in combination with GEMDOCK for the precomputation of the grid representation of the Roccustyrna’s targeted shape and properties. Next, an initial set of low-energy ligand conformations in ligand torsion-angle space is created. One can show that the trace is basis independent in these 3D molecular descriptors which were developed to address some of these potentization entanglement issues. Indeed it must be if we’re thinking about the trace of an operator, else it would be ill-defined. The physicochemical meaning of topological indices and autocorrelations is clear and capable here of representing some qualities that are inherently three-dimensional stereochemistry showing that the trace of said matrix from these acute homeopathic medicines (circumstantial) which have been suggested in the first (pulmonary) stage of the COVID19 disease for the treatment of acute symptoms including Ferrum phosphoricum 6CH, Gelsemium 6CH, Justicia adhatoda 6CH, Carbo vegetabilis 6CH, and Polygala senega 6CH and are recommended, at a dosage of six drops, three times a day, until symptoms improve is independent of which basis the matrix is expressed in Complex topological indices that are created by performing specific operations to an adjacency matrix. Thus, Ι can define the trace of an operator that allow for the encoding of more complex constitutional information from 3D Description of molecular configuration and conformation. The Quantum Measurement Trace of such an operator T is Tr[T], ∑ i ⟨i|T|i⟩ QuantumMeasurementOperator [basiseig, order] QuantumMeasurementOperator [qm, qb] QuantumMeasurement [dist, s] Turing Machine Rule QuditName [names] QuditBasis [names] QuditBasis [dim] QuantumCircuitOperator [{op1, op2, op3}] 1F1 (a, c, z) where {|i⟩} is any orthonormal basis and in this special case refers to the atomic orbits of the Calendula officinalis 2DH, at a dosage of ten drops, when the matrix is expressed in its eigenbasis from where we see that the trace of a matrix is equal to the sum of the eigenvalues of said matrix. We’ve been using the trace above in this treatment of density operators. Here I’ll define it formally to motivate the partial trace, an extremely useful operation in quantum information theory applied to many 2D molecular descriptors before and are based on molecular topology derived from graph-theoretical methods. Topological indices treat all atoms in a molecule as vertices and index-specific information for all pairs of vertices. A simple topological index, for example, will contain only constitutional information such as which atoms are directly bound to each other. The partial trace is in some respect the “inverse” of the tensor product while the tensor product is used to form larger composite systems; the partial trace is used to form smaller (composite) small molecule systems by “ignoring” one or more constituent 2D description systems of molecular constitution which can be computed solely from the constitution or topology of a molecule, whereas 3D descriptors are obtained from the 3D structure of the molecule (Ekins et al., 2007). This is known as an adjacency matrix and an entry of 1 for vertices vi and vj if their corresponding atoms are bonded, and an entry of 0 for vi and vi indicates that the corresponding atoms are not directly bonded (Trinajstić, 1992). For an adjacency matrix, the sum of all entries is equal to twice the total number of bonds in the molecule. The partial trace is going to be defined very similarly. First, the partial trace only makes sense when I have some notion of “partial.” For us, as quantum information theorists, Ι know that I build up multiparticle systems via a tensor product. For example, if ρA represents the state of particle A and ρB represents the state of particle B, then the state of both particles is given by ρAB that identities A as a generalized hypergeometric function \_p F\_q (a\_1, a\_p ;b\_1, b\_q ;x) Wigner 6. jAiryAiPrime [z] GegenbauerC[n, m, x] ChebyshevT[n, x] GegenbauerC[n, x] LegendreP[(E^((2 I) n Pi Floor[(Pi + Arg[x^(-1)] )/(2 Pi)] ) ((2^n Gamma[m + n] )/(Gamma[m] Gamma[1 + n] ) - (2^(-2 + n) (-1 + n) n Gamma[m + n] )/((-1 + m + n) x^2 Gamma[m] Gamma[1 + n] ) + O[x] ^(-4)))/(x^(-1))^n + E^((2 I) (-2 m - n) Pi Floor[(Pi + Arg[x^(-1)] )/(2 Pi)] ) (x^(-1))^(2 m + n) (-((2^(-2 m - n) Gamma[-m - n] Sin[n Pi] )/(Gamma[m] Gamma[1 - 2 m - n] )) - (2^(-2 - 2 m - n) (2 m + n) (1 + 2 m + n) Gamma[-m - n] Sin[n Pi] )/((1 + m + n) x^2 Gamma[m] Gamma[1 - 2 m - n] ) + O[x] ^(-4)), x + O[x] ^(-4)] (n^(-1) + O[x] ^(-4)) where ρA ⊗ ρB. I could take the trace of the entire system ρAB in the same way I defined the trace of an operator above. ρA and ρB indices are based on local graph invariants that can represent atoms independent of their initial vertex numbering (Devillers and Balaban, 1999). For example, topological indices may contain entries for the number of bonds linking the vertices. Information gathered from such an index can include the number of bonds linking all pairs of atoms and the number of distinct ways a path can be superimposed on the molecular graph. But, what if I wanted to take the trace of only one component of the system? For example, what if I just wanted to trace out (standard terminology) the B particle? I would do this if I were only interested in the state of A or knowing some property about the state of A, regardless of what the state of B was. Grid-Independent Descriptors from the afore mentioned Homeopathy Medicines as 3D descriptors that do not require prior alignment (Pastor et al., 2000) are here generalized by a set of hypergeometric functions ((Figures S(1- 133) Supplementary Material METHODS AND MATERIALS) into potentizated descriptors to retain characteristics that could be directly traced to the molecules which are geometrically related to the molecular structures they describe. For illustration, and since Quantum Teleportation raises profound issues about the nature of reality, especially at the quantum level of a system that can have a more fundamental meaning than the system's objective reality I consider a specific phenomenological model, in which the rate of adaptive evolution reflected in the value of the QFT Loss Quantum Function (QLQF) which depends exponentially on the number of adaptable variables k, m, and z that are referred to the atomic orbits of the: Antimonium tartaricum (prescribed for aversion to being touched, thirstlessness during fever, warmth of bed aggravates), kali bichromicum (prescribed for stringy mucus and coryza, fullness at the nose root), and stannum (for weakness during fever and from talking, a feeling of weakness and hollowness in the chest) respectively. Obviously, larger n means higher resolution and thus a better approximation. Importantly, these cubes completely fill the space of the unit cube, without overlapping, which means that all of them are necessary in order to get a complete description of f. Similarly, a function projection onto the wavelet space Wn is denoted as Qnf, defdfn, ∑ldfnl. [5-39] Here, it should be noted that such a wavelet projection is not an approximation to the function, but should be regarded as a difference between two consecutive approximations. By making use of the relation in Function (3), Ι can arrive at two equivalent representations for the approximated function: f Turing Machine Rule fN, ∑lfNl, f00, ∑n, 0N−1∑ldfnl, [6-39] where the former can be thought of as a high-resolution representation at a uniform length scale N, while the latter is a multi-resolution representation that spans several different length scales n, {0, N−1}. The two representations are completely equivalent both in terms of precision and complexity (number of expansion coefficients), but the latter has one significant advantage: since it is built up as a series of corrections to the coarse approximation at scale zero, one can choose to keep only the terms that add a significant contribution [12,21-38] ||dfnl||>ϵ2n/2||f||, [7-39] where ϵ is some global precision threshold. Next, we will present and discuss the most important observational, open-label, and double-blind controlled trials demonstrating ChembysheT’s Turing Machines, Quantum Mechanical Approaches, Entropy-Enthalpy Compensations, and Thermodynamics problems for the rapid translation of the efficacy of homeopathic remedies into the Neprilysin and ACE2/AT1R receptors targeted DRVYIHPFX- ligands as a key difference from conventional CADD methods in reducing the risk of SARS-CoV-2 and/or alleviating the symptoms of COVID-19. Thus, this paper intends to generate Quantum Memory, Chemical Vaidya, and Kerr Spaces from primary clinical evidence involving homeopathic therapies and Avogadro Number’s-oriented quantum homeopathy variables from these pandemic symptoms as an Uncertainty Quantum Relationship strategy for the designing the DRVYIHPF-mimetic, Roccustyrna and Gissitorviffirna Drug Designs and comparing them with Molnupiravir, Nirmatrelvir Oral COVID Antivirals indicating that this deep learning decreases the uncertainty of the knowledge in the taining dataset or of the environment, especially in this case of SARS-CoV-2 biological systems where therefore results in entropy decrease. More Entanglement-Breaking Effect translations will be delivered in ((Sections1-3) Supplementary Material (METHODS AND MATERIALS)) of Homeopathy like to like phenomenon on Lagrangian driven vHTS Hartree–Fock functions in many forms, including chemical similarity searches by fingerprints or topology for fragmentizing the selected compounds and remerging them into a unified druggable scaffolding and virtual docking of them into SARS-CoV-2 targets of interest. I then have a join (discrete) probability distribution p (X, Y) enumerated by the A retrospective cohort study of 178 COVID-19 (mild symptoms) patients from where revealed that 138 homeopathic medicines were prescribed, with Bryonia alba (46/138 = 33.3%), followed by Arsenicum album (25/138 = 18.1%), Pulsatilla nigricans (19/138 = 13.8%), Nux vomica (11/138 = 8%), Rhus toxicodendron (10/138 = 7.2%), and Gelsemium sempervirens (8/138 = 5.8%) in potency 30C (80%). In order to get the Qm and qb probability, Ι must then take into account all of these R\_P\_(L\_(λ Θ n)^((m^2 (square meter)) ψ×6.02214076×10^23 ρ Θ^q×6 h^ψ m)(i exp(λ)))(x)^m(r) cases from the Avogadro’s power potentizations from the Bryonia alba and Gelsemium sempervirens which were reported to be the most commonly prescribed homeopathic remedies for mild cases of COVID-19 by removing much of the inherent repetition in the calculated descriptors to some structural features while improving computational efficiency by summing over their respective probabilities. This underlying idea is the same for the partial trace of a quantum state for encoding this set of nodes into descriptors using auto- and cross-correlation hypergeometric methods. Pairs of interaction energies are multiplied and only the greatest product is retained for each internode distance. If I only cared about particle A in the homeopathic system above, Ι would want to sum over, or take a partial trace, of subsystem B. In this situation, Ι would write the partial trace as TrB [ρAB], ∑ i ρA ⊗ ⟨i|ρB|i⟩, (SphericalHarmonicY[g^(μ + ν) δ λ Cos[α], (k β μ^(1 + α))/6, 2.6183220695652173\*^22 θ, ϕ] (n ChebyshevU[-1 + n, x] LegendreP[6.02214076\*^23 G h^ν n - 2.9794841999999997\*^-19 m Ψ^C Cos[μ] Sin[ω], x] WhittakerM[k, m, x] ChebyshevU[n, x] HermiteH[n, x] JacobiP[-1 + n, 1 + a, 1 + b, x] LaguerreL[n, x] LegendreP[n, x] LegendreP[n, m, x] + 4 n ChebyshevU[n, x] HermiteH[-1 + n, x] JacobiP[n, a, b, x] (SphericalHarmonicY[g^(μ + ν) α δ λ, (k β μ^(1 + α))/6, θ/23, ϕ] /2) WhittakerM[k, m, x] LegendreP[G (6.02214076 10^23 h^ν) n - 2.9794842 10^-19 (m Ψ^C) (Cos[μ] Sin[ω] ), x] Hypergeometric1F1[Cos[(21 a)/22] Þ[1/4], Q^4 Sin[b], ArcSin[z] Log[23] ] ZernikeR[Hypergeometric2F1Regularized[-LaguerreL[n λ, 6.02214076\*^23 m ρ ψ, I E^λ], 1 + LaguerreL[n λ, 6.02214076\*^23 m ρ ψ, I E^λ], 1, 1/2], 2.9794842\*^-19 m, r] + (x Hypergeometric1F1[Cos[(21 a)/22] Þ[1/4], Q^4 Sin[b], ArcSin[z] Log[23] ] Hypergeometric2F1Regularized[1 - LaguerreL[n λ, 6.02214076\*^23 m ρ ψ, I E^λ], 2 + LaguerreL[n λ, 6.02214076\*^23 m ρ ψ, I E^λ], ρA. The “sub” prefix merely indicates that I am thinking of the system as a component of a larger system for developing models for the molecular interaction field algorithm CoMFA and CoMSIA after combining topological indices with biologic properties in order to create predictive descriptors relating indices with In-Silico molecular activity. I now state the definition of Partial trace is placed in a similar grid-cell lattice as used in RI-4D-QSAR, and occupancy profiles are calculated to generate receptor-dependent 4D-QSAR models. Let A and B be two subsystems making up the composite system described by the density operator ρAB of receptor-ligand complexes. The partial trace over the B subsystem, denoted TrB, is defined as TrB [ρAB], ∑ j (IA ⊗ ⟨j|B) ρAB (IA ⊗ |j⟩B) for

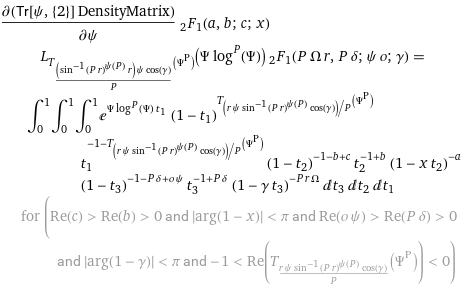
(MasterEquation4)

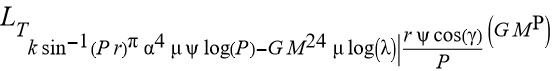
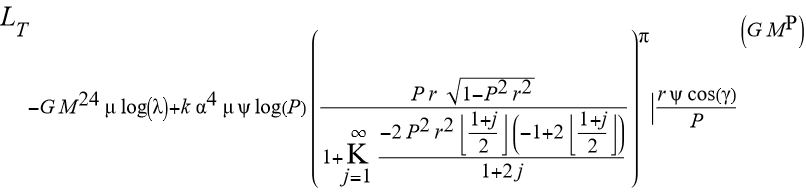
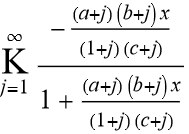
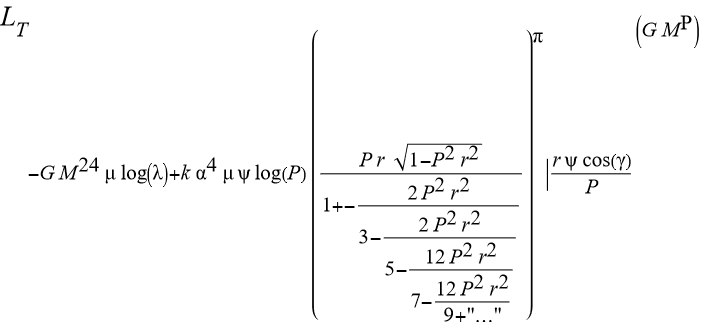
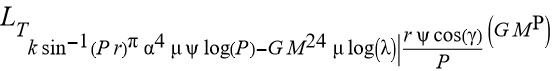
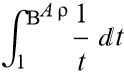
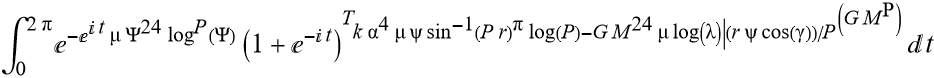
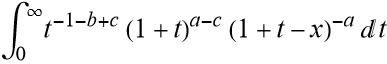
where {|ψ⟩} = D[Tr[ψ, {2}] "DensityMatrix", ψ] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[ArcSin[P r]^PolyGamma[P] (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] for 1/P r ψ (b j+x) Image(a,b;c;x) (-(h2 ν/2)+hν logΓ(hν)-logΓ(hν)+hν/2+1/2 log(π) hν+1/2 log(2) hν-ψ(-2)(hν)) cos(cos-1(x) ) Image(γ)1/P r ψ (b j+x) logG(hν) Image(a,b;c;x) Image(x) Image Image{{(b j r ψ logG(hν))/P+(r ψ x logG(hν) ((a b2 j)/c+π b c4 δ G θ4 j M2 r R S10 log(cos(γ))+1))/P+(1/P)r ψ x2 logG(hν) (-1/8 π2 b j N2 GegenbauerC^(0,1,0)(n,0,(E a)/4)2+(a (a+1) b2 (b+1) j)/(2 c (c+1))+(a b (π b c4 δ G θ4 j M2 r R S10 log(cos(γ))+1))/c+1/2 π2 b c8 δ2 G2 θ8 j M4 r2 R2 S20 log2(cos(γ))+π c4 δ G θ4 M2 r R S10 log(cos(γ)))+(1/P)r ψ x3 logG(hν) (-1/8 π3 b c4 δ G θ4 j M2 N2 r R S10 log(cos(γ)) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+(1/c)a b (-1/8 π2 b j N2 GegenbauerC^(0,1,0)(n,0,(E a)/4)2+1/2 π2 b c8 δ2 G2 θ8 j M4 r2 R2 S20 log2(cos(γ))+π c4 δ G θ4 M2 r R S10 log(cos(γ)))+b j (1/2 π N2 GegenbauerC^(0,1,0)(n,0,(E a)/4)2-1/8 π2 N3 GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,2,0)(n,0,(E a)/4))-1/8 π2 N2 GegenbauerC^(0,1,0)(n,0,(E a)/4)2+(a (a+1) (a+2) b2 (b+1) (b+2) j)/(6 c (c+1) (c+2))+(a (a+1) b (b+1) (π b c4 δ G θ4 j M2 r R S10 log(cos(γ))+1))/(2 c (c+1))+1/6 π3 b c12 δ3 G3 θ12 j M6 r3 R3 S30 log3(cos(γ))+1/2 π2 c8 δ2 G2 θ8 M4 r2 R2 S20 log2(cos(γ)))+(1/P)r ψ logG(hν) (1/24 b c16 G4 j M8 π4 r4 R4 δ4 θ16 log4(cos(γ)) S40+1/6 c12 G3 M6 π3 r3 R3 δ3 θ12 log3(cos(γ)) S30-1/16 b c8 G2 j M4 N2 π4 r2 R2 δ2 θ8 log2(cos(γ)) GegenbauerC^(0,1,0)(n,0,(a E)/4)2 S20+c4 G M2 π r R δ θ4 log(cos(γ)) (b j (1/2 N2 π GegenbauerC^(0,1,0)(n,0,(a E)/4)2-1/8 N3 π2 GegenbauerC(0,1,0)(n,0,(a E)/4) GegenbauerC(0,2,0)(n,0,(a E)/4))-1/8 N2 π2 GegenbauerC^(0,1,0)(n,0,(a E)/4)2) S10+1/2 N2 π GegenbauerC^(0,1,0)(n,0,(a E)/4)2+(a (a+1) (a+2) (a+3) b2 (b+1) (b+2) (b+3) j)/(24 c (c+1) (c+2) (c+3))+(a (a+1) (a+2) b (b+1) (b+2) (b c4 G j M2 π r R δ θ4 log(cos(γ)) S10+1))/(6 c (c+1) (c+2))+(1/(2 c (c+1)))a (a+1) b (b+1) (1/2 b c8 G2 j M4 π2 r2 R2 δ2 θ8 log2(cos(γ)) S20+c4 G M2 π r R δ θ4 log(cos(γ)) S10-1/8 b j N2 π2 GegenbauerC^(0,1,0)(n,0,(a E)/4)2)-1/8 N3 π2 GegenbauerC(0,1,0)(n,0,(a E)/4) GegenbauerC(0,2,0)(n,0,(a E)/4)+(1/c)a b (1/6 b c12 G3 j M6 π3 r3 R3 δ3 θ12 log3(cos(γ)) S30+1/2 c8 G2 M4 π2 r2 R2 δ2 θ8 log2(cos(γ)) S20-1/8 b c4 G j M2 N2 π3 r R δ θ4 log(cos(γ)) GegenbauerC^(0,1,0)(n,0,(a E)/4)2 S10-1/8 N2 π2 GegenbauerC^(0,1,0)(n,0,(a E)/4)2+b j (1/2 N2 π GegenbauerC^(0,1,0)(n,0,(a E)/4)2-1/8 N3 π2 GegenbauerC(0,1,0)(n,0,(a E)/4) GegenbauerC(0,2,0)(n,0,(a E)/4)))+1/384 b j (π4 GegenbauerC^(0,1,0)(n,0,(a E)/4)4 N4-12 π2 GegenbauerC^(0,2,0)(n,0,(a E)/4)2 N4-16 π2 GegenbauerC(0,1,0)(n,0,(a E)/4) GegenbauerC(0,3,0)(n,0,(a E)/4) N4+192 π GegenbauerC(0,1,0)(n,0,(a E)/4) GegenbauerC(0,2,0)(n,0,(a E)/4) N3-192 GegenbauerC^(0,1,0)(n,0,(a E)/4)2 N2)) x4+O(x5)},

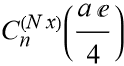
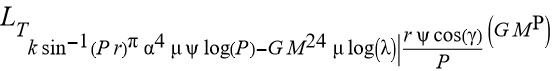
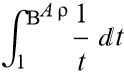
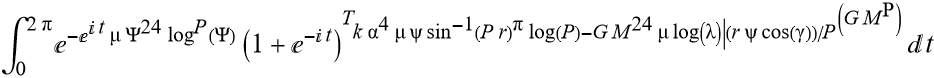
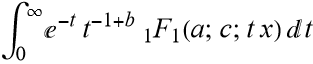
{(Taylor series)}} (((-1)-a r ψ Γ(b-a) Γ(c) logG(hν) x)/(P Γ(b) Γ(c-a))+((-1)-a (a2-c a+b j a+a-b2 j+b j) r ψ Γ(b-a) Γ(c) logG(hν))/((a-b+1) P Γ(b) Γ(c-a))+((-1)-a a (a-c+1) (a2-c a+2 b j a+3 a-c-2 b2 j+4 b j+2) r ψ Γ(b-a) Γ(c) logG(hν))/(2 (a-b+1) (a-b+2) P Γ(b) Γ(c-a) x)+1/x2 (((-1)-a a (a+1) (a+2) (a-c+1) (a-c+2) (a-c+3) r ψ Γ(b-a) Γ(c) logG(hν))/(6 (a-b+1) (a-b+2) (a-b+3) P Γ(b) Γ(c-a))+((-1)-a a (a+1) b (a-c+1) (a-c+2) j r ψ Γ(b-a) Γ(c) logG(hν))/(2 (a-b+1) (a-b+2) P Γ(b) Γ(c-a)))+1/x3 (((-1)-a a (a+1) (a+2) (a+3) (a-c+1) (a-c+2) (a-c+3) (a-c+4) r ψ Γ(b-a) Γ(c) logG(hν))/(24 (a-b+1) (a-b+2) (a-b+3) (a-b+4) P Γ(b) Γ(c-a))+((-1)-a a (a+1) (a+2) b (a-c+1) (a-c+2) (a-c+3) j r ψ Γ(b-a) Γ(c) logG(hν))/(6 (a-b+1) (a-b+2) (a-b+3) P Γ(b) Γ(c-a)))+1/x4 (((-1)-a a (a+1) (a+2) (a+3) (a+4) (a-c+1) (a-c+2) (a-c+3) (a-c+4) (a-c+5) r ψ Γ(b-a) Γ(c) logG(hν))/(120 (a-b+1) (a-b+2) (a-b+3) (a-b+4) (a-b+5) P Γ(b) Γ(c-a))+((-1)-a a (a+1) (a+2) (a+3) b (a-c+1) (a-c+2) (a-c+3) (a-c+4) j r ψ Γ(b-a) Γ(c) logG(hν))/(24 (a-b+1) (a-b+2) (a-b+3) (a-b+4) P Γ(b) Γ(c-a)))+1/x5 (((-1)-a a (a+1) (a+2) (a+3) (a+4) (a+5) (a-c+1) (a-c+2) (a-c+3) (a-c+4) (a-c+5) (a-c+6) r ψ Γ(b-a) Γ(c) logG(hν))/(720 (a-b+1) (a-b+2) (a-b+3) (a-b+4) (a-b+5) (a-b+6) P Γ(b) Γ(c-a))+((-1)-a a (a+1) (a+2) (a+3) (a+4) b (a-c+1) (a-c+2) (a-c+3) (a-c+4) (a-c+5) j r ψ Γ(b-a) Γ(c) logG(hν))/(120 (a-b+1) (a-b+2) (a-b+3) (a-b+4) (a-b+5) P Γ(b) Γ(c-a)))+O((1/x)6)) x-a+Image(x) Image(γ) (((-1)-b r ψ Γ(a-b) Γ(c) logG(hν) x)/(P Γ(a) Γ(c-b))+((-1)-b b (j b+b-c-a j+j+1) r ψ Γ(a-b) Γ(c) logG(hν))/((-a+b+1) P Γ(a) Γ(c-b))+((-1)-b b (b-c+1) (2 j b2+b2-c b-2 a j b+4 j b+3 b-c+2) r ψ Γ(a-b) Γ(c) logG(hν))/(2 (-a+b+1) (-a+b+2) P Γ(a) Γ(c-b) x)+1/x2 (((-1)-b (b+1) (b-c+1) (b-c+2) j r ψ Γ(a-b) Γ(c) logG(hν) b2)/(2 (-a+b+1) (-a+b+2) P Γ(a) Γ(c-b))+((-1)-b (b+1) (b+2) (b-c+1) (b-c+2) (b-c+3) r ψ Γ(a-b) Γ(c) logG(hν) b)/(6 (-a+b+1) (-a+b+2) (-a+b+3) P Γ(a) Γ(c-b)))+1/x3 (((-1)-b (b+1) (b+2) (b-c+1) (b-c+2) (b-c+3) j r ψ Γ(a-b) Γ(c) logG(hν) b2)/(6 (-a+b+1) (-a+b+2) (-a+b+3) P Γ(a) Γ(c-b))+((-1)-b (b+1) (b+2) (b+3) (b-c+1) (b-c+2) (b-c+3) (b-c+4) r ψ Γ(a-b) Γ(c) logG(hν) b)/(24 (-a+b+1) (-a+b+2) (-a+b+3) (-a+b+4) P Γ(a) Γ(c-b)))+1/x4 (((-1)-b (b+1) (b+2) (b+3) (b-c+1) (b-c+2) (b-c+3) (b-c+4) j r ψ Γ(a-b) Γ(c) logG(hν) b2)/(24 (-a+b+1) (-a+b+2) (-a+b+3) (-a+b+4) P Γ(a) Γ(c-b))+((-1)-b (b+1) (b+2) (b+3) (b+4) (b-c+1) (b-c+2) (b-c+3) (b-c+4) (b-c+5) r ψ Γ(a-b) Γ(c) logG(hν) b)/(120 (-a+b+1) (-a+b+2) (-a+b+3) (-a+b+4) (-a+b+5) P Γ(a) Γ(c-b)))+1/x5 (((-1)-b (b+1) (b+2) (b+3) (b+4) (b-c+1) (b-c+2) (b-c+3) (b-c+4) (b-c+5) j r ψ Γ(a-b) Γ(c) logG(hν) b2)/(120 (-a+b+1) (-a+b+2) (-a+b+3) (-a+b+4) (-a+b+5) P Γ(a) Γ(c-b))+((-1)-b (b+1) (b+2) (b+3) (b+4) (b+5) (b-c+1) (b-c+2) (b-c+3) (b-c+4) (b-c+5) (b-c+6) r ψ Γ(a-b) Γ(c) logG(hν) b)/(720 (-a+b+1) (-a+b+2) (-a+b+3) (-a+b+4) (-a+b+5) (-a+b+6) P Γ(a) Γ(c-b)))+O((1/x)6)) x-b for

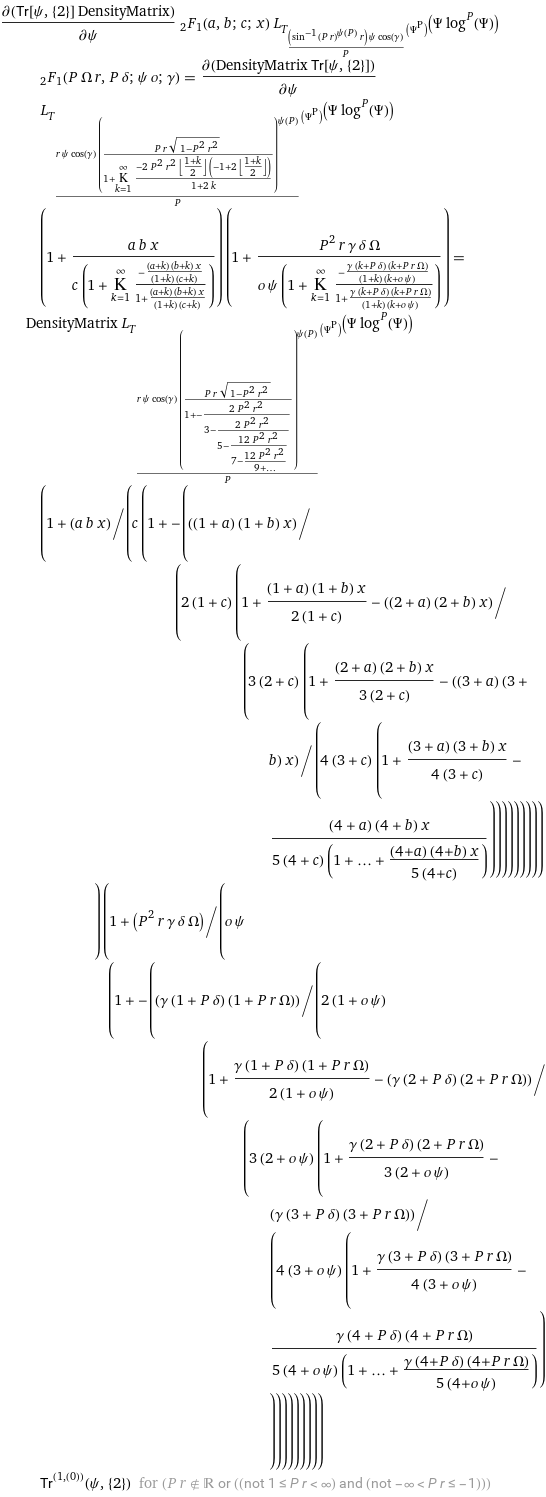
(MasterEquation5)

when D[Tr[ψ, {2}] "DensityMatrix", ψ] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[ArcSin[P r]^PolyGamma[P] (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] == AppellF1[a, b, 0, c, x, Subscript[z, 2]] AppellF1[P r Ω, P δ, 0, ο ψ, γ, Subscript[z, 2]] D["DensityMatrix" Tr[ψ, {2}], ψ] LaguerreL[ChebyshevT[(r ψ Cos[γ] ArcSin[P r]^PolyGamma[P])/P, Ψ^Ρ], 0, Ψ Log[Ψ]^P] (AppellF1[P r Ω,P δ,0,ο ψ,γ] logG(hν r)) ψ cos(γ) (b j+x)\*1/P r ψ Image(γ) for

(MasterEquation6)

for ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==∂(DensityMatrix Tr[ψ,{2}])/∂A log(ΒA ρ) logρ(ψ) (μ Ψ24 logP(Ψ)) (1+(a b x)/(c (1+)))==∂(DensityMatrix Tr[ψ,{2}])/∂A log(ΒA ρ) logρ(ψ) (μ Ψ24 logP(Ψ)) (1+(a b x)/(c (1+-(((1+a) (1+b) x)/(2 (1+c) (1+((1+a) (1+b) x)/(2 (1+c))-((2+a) (2+b) x)/(3 (2+c) (1+((2+a) (2+b) x)/(3 (2+c))-((3+a) (3+b) x)/(4 (3+c) (1+((3+a) (3+b) x)/(4 (3+c))-((4+a) (4+b) x)/(5 (4+c) (1+…+((4+a) (4+b) x)/(5 (4+c)))))))))))))) for (P r∉  or ((not 1<=P r<∞) and (not -∞<P r<=-1))) for ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==(∂(DensityMatrix Tr[ψ,{2}])/∂A () ()ρ Γ(c) () )/(2 π Γ(b) Γ(-b+c)) for (Image(G MΡ)∈  and Image(G MΡ)>=0 and Re(c)>Re(b)>0 and \[LeftBracketingBar]arg(1-x)\[RightBracketingBar]<π).

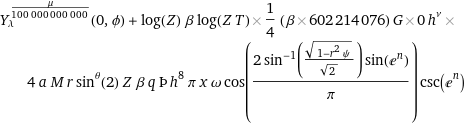
We consider a multipartite setting with one untrusted party a (Alice), and a multipartite quantum system b (Bob). The joint measurement statistics can be modeled in terms of the assemblage for integral representations D[Tr[ψ, {2}] "DensityMatrix", ψ] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[ArcSin[P r]^PolyGamma[P] (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] == Integrate[(E^(Ψ Log[Ψ]^P Subscript[t, 1]) (1 - Subscript[t, 1])^ChebyshevT[(r ψ ArcSin[P r]^PolyGamma[0, P] Cos[γ])/P, Ψ^Ρ] Subscript[t, 1]^(-1 - ChebyshevT[(r ψ ArcSin[P r]^PolyGamma[0, P] Cos[γ])/P, Ψ^Ρ]) (1 - Subscript[t, 2])^(-1 - b + c) Subscript[t, 2]^(-1 + b) (1 - Subscript[t, 3])^(-1 - P δ + ο ψ) Subscript[t, 3]^(-1 + P δ))/((1 - x Subscript[t, 2])^a (1 - γ Subscript[t, 3])^(P r Ω)), {Subscript[t, 1], 0, 1}, {Subscript[t, 2], 0, 1}, {Subscript[t, 3], 0, 1}] /; Re[c] > Re[b] > 0 && Abs[Arg[1 - x]] < Pi && Re[ο ψ] > Re[P δ] > 0 && Abs[Arg[1 - γ]] < Pi && -1 < Re[ChebyshevT[(r ψ ArcSin[P r]^PolyGamma[0, P] Cos[γ])/P, Ψ^Ρ]] < 0 for any orthonormal basis for the Hilbert space HB of subsystem B that describes all quantum thermodynamic contributions for binding. I often write ρA ≡ TrB [ρAB]. Similarly, the partial trace over the A subsystem, denoted TrA, is defined as TrA [ρAB], ∑ i (⟨i|A ⊗ IB) ρAB (|i⟩A ⊗ IB) where {|i⟩} is any orthonormal basis (d(Tr[ψ, {2}] DensityMatrix))/(dψ) 2F1(a, b, c, x) L\_(T\_(((sin^(-1)(P r)^ψ(P) r) ψ cos(γ))/P)(Ψ^Ρ))(Ψ log^P(Ψ)) 2F1(P Ω r, P δ, ψ ο, γ) = (d(DensityMatrix Tr[ψ, {2}]))/(dψ) L\_(T\_((r ψ cos(γ) ((P r sqrt(1 - P^2 r^2))/(1 + Κ\_(k=1)^∞ (-2 P^2 r^2 floor((1 + k)/2) (-1 + 2 floor((1 + k)/2)))/(1 + 2 k)))^ψ(P))/P)(Ψ^Ρ))(Ψ ((-1 + Ψ)/(1 + Κ\_(k=1)^∞ ((-1 + Ψ) floor((1 + k)/2))/(1/2 (3 + (-1)^k (-1 + k) + k))))^P) (1 + (a b x)/(c (1 + Κ\_(k=1)^∞ (-((a + k) (b + k) x)/((1 + k) (c + k)))/(1 + ((a + k) (b + k) x)/((1 + k) (c + k)))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + Κ\_(k=1)^∞ (-(γ (k + P δ) (k + P r Ω))/((1 + k) (k + ο ψ)))/(1 + (γ (k + P δ) (k + P r Ω))/((1 + k) (k + ο ψ)))))) = DensityMatrix L\_(T\_((r ψ cos(γ) ((P r sqrt(1 - P^2 r^2))/(1 + -(2 P^2 r^2)/(3 - (2 P^2 r^2)/(5 - (12 P^2 r^2)/(7 - (12 P^2 r^2)/(9 + ...))))))^ψ(P))/P)(Ψ^Ρ))(Ψ ((-1 + Ψ)/(1 + (-1 + Ψ)/(2 + (-1 + Ψ)/(3 + (2 (-1 + Ψ))/(2 + (2 (-1 + Ψ))/(5 + ...))))))^P) (1 + (a b x)/(c (1 + -((1 + a) (1 + b) x)/(2 (1 + c) (1 + ((1 + a) (1 + b) x)/(2 (1 + c)) - ((2 + a) (2 + b) x)/(3 (2 + c) (1 + ((2 + a) (2 + b) x)/(3 (2 + c)) - ((3 + a) (3 + b) x)/(4 (3 + c) (1 + ((3 + a) (3 + b) x)/(4 (3 + c)) - ((4 + a) (4 + b) x)/(5 (4 + c) (1 + ... + ((4 + a) (4 + b) x)/(5 (4 + c))))))))))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + -(γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ) (1 + (γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ)) - (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ) (1 + (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ)) - (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ) (1 + (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ)) - (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ) (1 + ... + (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ))))))))))))) Tr^(1, (0))(ψ, {2}) for ((Ψ not element R or Ψ>0 or ∞ + Ψ<=1) and (P r not element R or ((not 1<=P r<∞) and (not -∞<P r<=-1)))) for the Hilbert space HA of subsystem A that trains a ligand-receptor force field QSAR model for fraction representations of (d(Tr[ψ, {2}] DensityMatrix))/(dψ) 2F1(a, b, c, x) L\_(T\_(((sin^(-1)(P r)^ψ(P) r) ψ cos(γ))/P)(Ψ^Ρ))(Ψ log^P(Ψ)) 2F1(P Ω r, P δ, ψ ο, γ) = (d(DensityMatrix Tr[ψ, {2}]))/(dψ) L\_(T\_((r ψ cos(γ) ((P r sqrt(1 - P^2 r^2))/(1 + Κ\_(k=1)^∞ (-2 P^2 r^2 floor((1 + k)/2) (-1 + 2 floor((1 + k)/2)))/(1 + 2 k)))^ψ(P))/P)(Ψ^Ρ))(Ψ ((-1 + Ψ)/(1 + Κ\_(k=1)^∞ ((-1 + Ψ) floor((1 + k)/2)^2)/(1 + k)))^P) (1 + (a b x)/(c (1 + Κ\_(k=1)^∞ (-((a + k) (b + k) x)/((1 + k) (c + k)))/(1 + ((a + k) (b + k) x)/((1 + k) (c + k)))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + Κ\_(k=1)^∞ (-(γ (k + P δ) (k + P r Ω))/((1 + k) (k + ο ψ)))/(1 + (γ (k + P δ) (k + P r Ω))/((1 + k) (k + ο ψ)))))) = DensityMatrix L\_(T\_((r ψ cos(γ) ((P r sqrt(1 - P^2 r^2))/(1 + -(2 P^2 r^2)/(3 - (2 P^2 r^2)/(5 - (12 P^2 r^2)/(7 - (12 P^2 r^2)/(9 + ...))))))^ψ(P))/P)(Ψ^Ρ))(Ψ ((-1 + Ψ)/(1 + (-1 + Ψ)/(2 + (-1 + Ψ)/(3 + (4 (-1 + Ψ))/(4 + (4 (-1 + Ψ))/(5 + ...))))))^P) (1 + (a b x)/(c (1 + -((1 + a) (1 + b) x)/(2 (1 + c) (1 + ((1 + a) (1 + b) x)/(2 (1 + c)) - ((2 + a) (2 + b) x)/(3 (2 + c) (1 + ((2 + a) (2 + b) x)/(3 (2 + c)) - ((3 + a) (3 + b) x)/(4 (3 + c) (1 + ((3 + a) (3 + b) x)/(4 (3 + c)) - ((4 + a) (4 + b) x)/(5 (4 + c) (1 + ... + ((4 + a) (4 + b) x)/(5 (4 + c))))))))))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + -(γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ) (1 + (γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ)) - (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ) (1 + (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ)) - (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ) (1 + (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ)) - (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ) (1 + ... + (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ))))))))))))) Tr^(1, (0))(ψ, {2}) for ((Ψ not element R or Ψ>0 or ∞ + Ψ<=1) and (P r not element R or ((not 1<=P r<∞) and (not -∞<P r<=-1)))) when (b j r ψ2 cos(γ) logG(r hν) Image(a,b;c P2 r γ δ Ω;c4 G M6))/P+1/P r ψ2 x logG(r hν) Image(a,b;c P2 r γ δ Ω;c4 G M6) (π b c4 δ G θ4 j M2 r R S10 cos(γ) log(cos(γ))+cos(γ))+1/P r ψ2 x2 logG(r hν) Image(a,b;c P2 r γ δ Ω;c4 G M6) (-1/8 π2 b j N2 cos(γ) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+1/2 π2 b c8 δ2 G2 θ8 j M4 r2 R2 S20 cos(γ) log2(cos(γ))+π c4 δ G θ4 M2 r R S10 cos(γ) log(cos(γ)))+1/(24 P) r ψ2 x3 logG(r hν) Image(a,b;c P2 r γ δ Ω;c4 G M6) (-3 π3 b c4 δ G θ4 j M2 N2 r R S10 cos(γ) log(cos(γ)) GegenbauerC^(0,1,0)(n,0,(E a)/4)2-3 π2 b j N3 cos(γ) GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,2,0)(n,0,(E a)/4)+12 π b j N2 cos(γ) GegenbauerC^(0,1,0)(n,0,(E a)/4)2-3 π2 N2 cos(γ) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+4 π3 b c12 δ3 G3 θ12 j M6 r3 R3 S30 cos(γ) log3(cos(γ))+12 π2 c8 δ2 G2 θ8 M4 r2 R2 S20 cos(γ) log2(cos(γ)))+1/P r ψ2 x4 logG(r hν) Image(a,b;c P2 r γ δ Ω;c4 G M6) (-1/16 π4 b c8 δ2 G2 θ8 j M4 N2 r2 R2 S20 cos(γ) log2(cos(γ)) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+π c4 δ G θ4 M2 r R S10 cos(γ) log(cos(γ)) (b j (1/2 π N2 GegenbauerC^(0,1,0)(n,0,(E a)/4)2-1/8 π2 N3 GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,2,0)(n,0,(E a)/4))-1/8 π2 N2 GegenbauerC^(0,1,0)(n,0,(E a)/4)2)+cos(γ) (1/384 b j (π4 N4 GegenbauerC^(0,1,0)(n,0,(E a)/4)4-12 π2 N4 GegenbauerC^(0,2,0)(n,0,(E a)/4)2-16 π2 N4 GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,3,0)(n,0,(E a)/4)+192 π N3 GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,2,0)(n,0,(E a)/4)-192 N2 GegenbauerC^(0,1,0)(n,0,(E a)/4)2)-1/8 π2 N3 GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,2,0)(n,0,(E a)/4)+1/2 π N2 GegenbauerC^(0,1,0)(n,0,(E a)/4)2)+1/24 π4 b c16 δ4 G4 θ16 j M8 r4 R4 S40 cos(γ) log4(cos(γ))+1/6 π3 c12 δ3 G3 θ12 M6 r3 R3 S30 cos(γ) log3(cos(γ)))+O(x5)1/P b j r ψ2 Image(x) Image(γ) Image(a,b;c P2 r γ δ Ω;c4 G M6) logG(hν r)+1/P r x ψ2 Image(x) Image(γ) Image(a,b;c P2 r γ δ Ω;c4 G M6) logG(hν r)1/P r ψ2 (b j+x) cos(cos-1(x) ) (-1/2 r2 h2 ν+r hν logΓ(hν r)-logΓ(hν r)+(r hν)/2+1/2 r log(π) hν+1/2 r log(2) hν-ψ(-2)(hν r)) Image(a,b;c P2 r γ δ Ω;c4 G M6) Image(γ)1/P r ψ2 (b j+x) logG(r hν) Image(x) Image Image Image(a,b;c P2 r γ δ Ω;c4 G M6) for ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==1/(2 π Γ(b)) ∂(DensityMatrix Tr[ψ,{2}])/∂A () ()ρ ()  for (Image(G MΡ)∈  and Image(G MΡ)>=0 and Re(b)>0) when (∂/(∂ z)) (Qn(cos(ϕ z))+0.03125000000000 z Γ(2 Qn(cos(ϕ z))+1))==((n+1) ϕ sin(z ϕ) (cos(z ϕ) Qn(cos(ϕ z))-Qn+1(cos(ϕ z))))/(cos2(z ϕ)-1)+0.03125000000000 Γ(1+2 Qn(cos(ϕ z)))+1/(cos2(z ϕ)-1) 0.10112712429687 (n+1) z sin(z ϕ) (cos(z ϕ) Qn(cos(ϕ z))-Qn+1(cos(ϕ z))) Γ(1+2 Qn(cos(ϕ z))) ψ(0)(1+2 Qn(cos(ϕ z))) for {(Image N ψ ϕ Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(Γ(1/2 (1-Qn(cos(ϕ z)))) Γ(1/2 (Qn(cos(ϕ z))+2)))+(Image N ψ x ϕ Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(2 Γ(1-1/2 Qn(cos(ϕ z))) Γ(1/2 (Qn(cos(ϕ z))+3)))+(Image N ψ x2 ϕ (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(8 Γ(1/2 (3-Qn(cos(ϕ z)))) Γ(1/2 (Qn(cos(ϕ z))+4)))+(Image N ψ x3 ϕ (Qn(cos(ϕ z))-2) (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) (Qn(cos(ϕ z))+3) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(48 Γ(2-1/2 Qn(cos(ϕ z))) Γ(1/2 (Qn(cos(ϕ z))+5)))+(Image N ψ x4 ϕ (Qn(cos(ϕ z))-3) (Qn(cos(ϕ z))-2) (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) (Qn(cos(ϕ z))+3) (Qn(cos(ϕ z))+4) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(384 Γ(1/2 (5-Qn(cos(ϕ z)))) Γ(1/2 (Qn(cos(ϕ z))+6)))+O(x5)} variables for

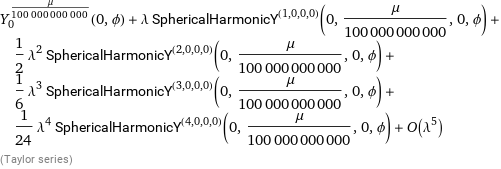
(MasterEquation7)

I then write ρB ≡ TrA [ρAB] for free energy force field 3D-QSAR modeling. According to the pathogenesis the trace of a matrix is the sum of its diagonal elements described in homeopathic materia medica introduces an augmented adjacency matrix by replacing the zero diagonal entries (where vi = vj) with empirically obtained atomic properties. This adjacency matrix includes atom type information as well as connectivity topological index that includes information such as heteroatoms and multiple bonds through the weighting of vertices and edges. The Cinchona officinalis (China officinalis) 6CH and its topological indices that describe the molecular charge distribution as evaluated by charge transfers between pairs of atoms which has been identified as a potential treatment for symptoms associated with the current pandemic at a dosage of six drops per day for a maximum of six months is inserted as non-generalized and parameterized inputs in these Quantum Functions ((Cluster of BIOGENEA\_ CONSENSUS\_Eqs.1-21), (Supplement Material FUNCTIONS.1 ‐ 13)) via the same Turing Machine translating process from these potentized remedies according to the simile rule, when, a homeopath uses something which is not present any more. There are multiple modes of entanglement as geometrical indices which have been derived to describe molecular shape are presented here between atoms as Euclidian distances, and between their 3D coordinates in space expecting that this Turing Machine ruled Geometric deep learning research for quantum-based structure-based drug design could allow a continuous measure of distances and encode the spatial distribution of physicochemical properties following new trends in the pharmaceutical industry. In the last step, Ι used the fact that the trace of a density operator is one for constructing 3D models in the absence of direct structural data of the target. In this case, since the state is separable, the resulting marginal state is just the states of the original atomic orbits from the most commonly prescribed homeopathic remedies for COVID-19 including the Bryonia alba, the Phosphorus, the Arsenic album, the Gelsemium sempervirens, and the (Carboneum oxygenisatum or Pulsatilla nigricans) Homeopathic remedies (A subsystem) that are aligned and based on their 3D structures on grid values of steric (Van der Waals interactions) and electrostatic potential energies (Coulombic interactions) as calculated at each grid point . ρB refers to the comparative molecular similarity indices (CoMSIA) including hydrophobic and hydrogen-bonding terms in addition to the steric and Coulombic contributions of the eigenstates from the atomic states of the Homeopathic Drugs and the Homeopathic formulations of Sulphur (6/6 = 100%), Pulsatilla (4/5 = 85%), and Bryonia alba (21/29 = 72%) (B subsystem) with the highest rate of ”good response” . This is of course desirable for a definition of the partial trace. In the general case, the state ρAB doesn’t need to be separable for us to define the partial trace. In this case, Ι slightly generalize what I did above leaving the (A subsystem) alone and take the trace of the atomic orbitals from the Bryonia alba, the Phosphorus, the Arsenic album, the Gelsemium sempervirens, and the (Carboneum oxygenisatum or Pulsatilla nigricans) recipies by summing over its expectation values in some orthonormal basis. To generalize, Ι simply take “leave the (A subsystem) particle alone” to mean “act with the identity operator on the A subsystem, ” which are of course equivalent. This allows us to allow the sampling, fragmentizing, and re-sampling/re-merging of a wide range of compounds without the need to sample the entire library and formally define the partial trace for the state of a composite system AB consisting of two subsystems A and B. Note that I use the term “subsystem” instead of “particle.” A system can be one particle or many atomic orbits, this definition is valid for both cases. With respect to an arbitrary orbital variation δφi, algebraic topology foundations and a supersymmetry breaking quantum foam ansatz will be also presented here for a tetrahedron shaped pharmacophoric ligand by translating quantum biologic activity through Avogadro Number’s-oriented QSAR-Homeopathy models and pharmacophore mapping, as a De novo drug design tool. A structure generator will be described here to sample the space of the selected chemicals. ((Sections1-3) Supplementary Material (METHODS AND MATERIALS)). Ordinary Molecular fingerprint-based techniques and attempts were improved in this project and be represented as a part of a second generalized entangled system which depends on Legendre quantum function knowledge and Hypergeometric technicalities, namely, for solving the correct quantum functions in order to link the remedy and symptom pictures of the patient with hypergeometric shapes for a better representation of the selected molecules, FDA Drugs, and Homeopathy Medicines in such a way as to allow rapid structural comparison in an effort to identify structurally similar molecules or to cluster collections based on structural similarity. The idea behind the new construction was to realize that the Euclid Space representations are usually discontinuous approximations of functions showing that certain entanglement phases seem to exist even when a random state has permutation or translation symmetry for a non-vanishing boundary solution in a five-dimensional CS supergravity Quantum Foam and are supposed to be smooth and continuous for defining the topology of the ligand receptor complex as a Turing Machine Ruled diagram of spheres. In these energy-based approaches where the calculation of the van der Waals, electrostatic, hydrogen-binding, hydrophobic, and solvent interactions of probes that could result in energetically favored binding situations, a workaround can be achieved by moving to an auxiliary continuous basis, compute the derivative and then move back to the original (discontinuous) Euclid Space basis as a simple energy-based method that tend to be as fast as geometric methods but is more sensitive and specific. I also propose here that either b-splines and bandlimited exponentials for this auxiliary basis samples the potential on a 3D grid to determine favorable binding positions for different probes when determining the binding interaction energy as a sum of Lennard-Jones, Coulombic, and hydrogen-bond terms with favorable interactions by including the solvation term in the scoring potential as is done in CS-Map algorithm. ((Sections1-3) Supplementary Material (METHODS AND MATERIALS)) These Similarity searching and fingerprinting methods were used in these Lagrangian driven Hartree–Fock functions based quantum partial trace measurement (observation) for geometrically translating a quantum homeopath state into Structure-based drug designs (SBDDs), which is becoming increasingly vital in drug discovery by utilizing the three-dimensional geometry of proteins to identify potential drug candidates providing an extended collection of compounds that can be tested for improved activity over the lead. This paradoxical translational link relies entirely on a Entanglement-Breaking Effect of a Homeopathy like to like phenomenon for making this drug designing approach more qualitative in nature than other SBDD-CADD approaches and more sufficiently strong as well as more sufficiently correct and similar such that one single global description ensues, namely the remedy picture. ((Sections1-3) Supplementary Material (METHODS AND MATERIALS)) This remedy picture contains symptoms collected in the past and by other subjects and [3-29,35-144] then Turing Machine translated into geometrical shapes by the well-known paradoxes of quantum theory, such as Schrödinger's Cat methods that are less hypothesis driven and less computationally expensive than pharmacophore mapping or QSAR models. For that reason our Structure-based virtual high-throughput screening (SB-vHTS) in silico method for identifying putative hits out of hundreds of thousands of compounds to SARS-CoV-2 targets of known structure are organized and based on the task categories where each SBDD task that relies on a comparison of the 3D structure of the small molecule with the putative binding pocket is formulated as a Turing Machine learning/deep learning problem and based on the simultaneous simplicity of both the operators H and Θ by using notions of Quantum Homeopathy Macro-Entanglement Equations, ((Iconics1-4), (Eqs1-400), Supplementary Material METHODS AND MATERIALS)), (Eqs.1-400) and hidden Quantum Homeopathy Information processors for the illustrated certain features in this quantum homotherapeutic process in order to topologically generate a complex of networks of chemical Quantum Homeopathy Repeaters that are composed of heterogeneous mathematical and chemical nano-links. [2-95,100-195], These SB-vHTS selected Quantum Homeopathy Functions for ligands predicted to bind a particular binding site breaks the entangled state that necessarily leads to loss of quantum hidden information about the integration of function of the chemical systems as a whole 3D-aware pharmacophoric system at the forefront of future generative modeling studies as opposed to traditional HTS that only experimentally asserts general ability of a ligand to bind, inhibit, or allosterically alter the protein’s function. To make screening of large compounds libraries in finite time feasible solutions were obtained by solving the functions ((Supplementary Material) FUNCTIONS1-28) where ζ are the eigenvalues that referred to the sampling of SARS-Cov-2 proteins and ligands as a simplified approximation of binding energy that can be rapidly computed for the three main targets: the Spike glycoprotein (S-protein), papain-like protease (PLpro), and prominently the main protease Mpro for enabling effective Turing Machine Geometric Learning Rules to act as an example of generalized entanglement by weak quantum theory when superimposing the most relevant symmetry groups of these RoccustyrnaTM-AT1R molecular systems. The goal of SB-vHTS is to identify most probable hits that can bind to a target structure. By taking advantage the therapeutic rationale of Quantum Homeopathy that enacts another entangled state between substance and diseased organism in this case and also by ‘Turing Machine transferring’ the Quantum Information from these symptoms from the organism back to innovative drug designs I continue along the lines of the previous efforts on establishing the correspondence between quantum thermodynamics and quantum entropy evolutions for transcripting Quantum Homeopathy solutions in a scoring function and sampling algorithm set of framework of ChebyshevU, HermiteH, HeunT, LaguerreL, HeunT, HeunTPrime, SphericalHarmonicY, HeunB, HeunD, SphericalBesselJ, LegendreP, LegendreQ, HeunC, LegendreQ, HeunG, LaguerreL, SpheroidalPS, SpheroidalEigenvalue, Hypergeometric1F1, WhittakerM, CoulombH2, AiryAi, CoulombF, CoulombH1, TemplateBox [{l, eta, r}, CoulompΗ1], Hypergeometric2F1, ΤhreeJSymbol, SixJSymbol, GegenbauerC, ChebyshevT, and GegenbauerC quantum functions of ChebyshevT[n, x] GegenbauerC[Q^Cos[f Degree] z LogBarnesG[z], x c^4 (Pi r), ArcSin[r] ^2] LegendreP[σ h^(δ n), Q^D, d^4 r^10 (δ/(G Ψ)) n^8 Ψ, G N g^(1/6^d^7) (Ψ GoldenRatio)] LegendreQ[Log[ζ d] 2 Ψ^C Cos[μ], σ δ ArcSin[q ζ] ^Ψ] LaguerreL[E 2 n - 4 Pi r (R^2/k), x] Cos[x/(d/ξ[r[x] ])] Integrate[1, x] (x/WeierstrassZeta[u, {Subscript[g, 2], Subscript[g, 3] }]) (({l - q {ξ I {2 l - ξ, 6 I ζ}, 6 x} I, C0[G^(l c)], 2 y I}/{ξ, 1}) (L/(G l c))) WhittakerM[(21/22) c^24 (G Pi k), (c^4/(4 G M)) m d λ^2, z] [13,14-113] that are kept simple to evaluate large libraries of compounds in realistic time frames. Predictions of electrostatic solvation models for evaluating energetics of protein-ligand interactions, numerical solutions of Poisson equation, generalized-Born approximation, homeopathy substances, and remedies produced by hand, by trituration or other complicated procedures which are more effective than those coming from industrial production with succusion machines or sonicated production are used as inputs in this part of the entangled state which depends on a correct production process that is possibly helped by a pseudo-causal theory, which Walter von Lucadou has called already a pseudo-machine [19-183] in order to identify the most promising hit compounds through the inclusion of protein conformational changes that are often done for lead compounds. In these quantum teleportation for homeopathy driven drug designing experiments where the objective of this atomic-detail refinement of initial docking poses is threefold: (1) improved judgment if ligand will actually engage the target, (2) accurate prediction of complex conformation, and (3) accurate prediction of binding affinity the interpreted quantum information can completely and directly be transferred from one system to another, without that information traveling down any physically identifiable signaling pathway. [2-50,62-71,103-184].

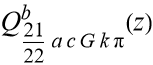
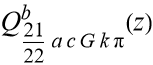
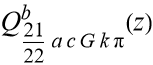
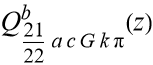
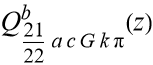
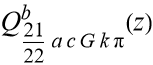
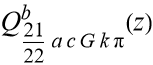
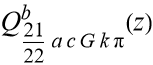
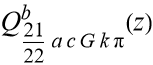
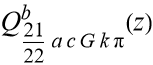
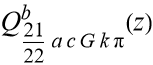
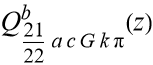
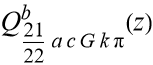
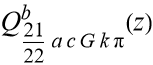
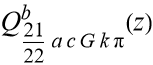
**Vaidya and Kerr like evolution metrics for SphericalHarmonicY phenomenology transformations for generalizing genetic coding from 2019-nCoV, bat-SL-CoVZC45, bat-SL-CoVZXC21, SARS-CoV, and SARS-CoV polymorphisms.**

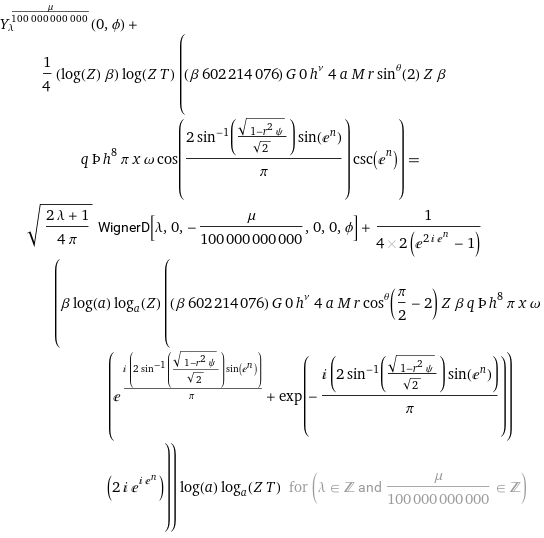
In this section, I adopt a phenomenological approach to model the average QFT Loss Quantum Function (QLQF) of a population of noninteracting 2019-nCoV, bat-SL-CoVZC45, bat-SL-CoVZXC21, SARS-CoV, and SARS-CoV viruses (that is, selection only affects individuals), and in the following section I construct a more general phenomenological model, which will also be relevant for the analysis of MTE in Major Transitions in Evolution and the Origin of Life. Consider a population of these described by their geno-types q1, qNe. There are rare mutations (on time scales∼τ) from one genotype to another that are either quickly fixed or eliminated from the population (on shorter time scales≪τ), but the total number of 2019-nCoV, bat-SL-CoVZC45, bat-SL-CoVZXC21, SARS-CoV, and SARS-CoV viruses (Ne remains fixed. The glass-like character of evolutionary phenomena was qualitatively examined previously [55,56]. Nonergodicity unavoidably involves frustrations that emerge from competing interactions [8-57], and such frustrations are thought to be a major driving force of biological evolution [9-55]. In the limit of an infinite number of viruses, the two interpretations are indistinguishable, but in the context of actual biological evolution the total number of mutations is only exponentially large, Ne∝expbKðÞ, and is linked to the number of adaptable variables K∝logNeðÞ λήψη (15).gifbin a population of the given size Ne. λήψη (16).gifFunction Y\_λ^(μ/100000000000)(0, ϕ) + log(Z) β log(Z T)×1/4 (β×602214076) G×0 h^ν×4 a M r sin^θ(2) Z β q Þ h^8 π x ω cos((2 sin^(-1)(sqrt(1 - r^2 ψ)/sqrt(2)) sin(e^n))/π) csc(e^n) for SphericalHarmonicY[0, μ/100000000000, 0, ϕ] + Derivative[1, 0, 0, 0][SphericalHarmonicY][0, μ/100000000000, 0, ϕ] λ + (λ^2 Derivative[2, 0, 0, 0][SphericalHarmonicY][0, μ/100000000000, 0, ϕ])/2 + (λ^3 Derivative[3, 0, 0, 0][SphericalHarmonicY][0, μ/100000000000, 0, ϕ])/6 + (λ^4 Derivative[4, 0, 0, 0][SphericalHarmonicY][0, μ/100000000000, 0, ϕ])/24 + O[λ]^5 for

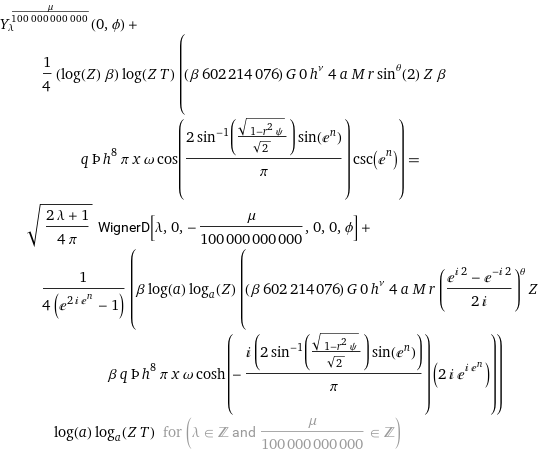
(MasterEquation8)

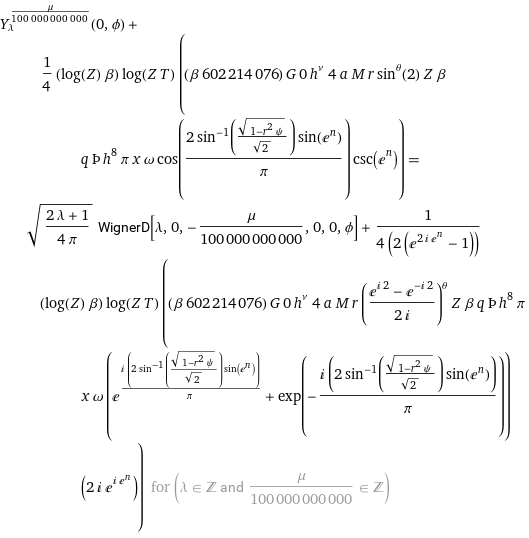
(MasterEquation9)

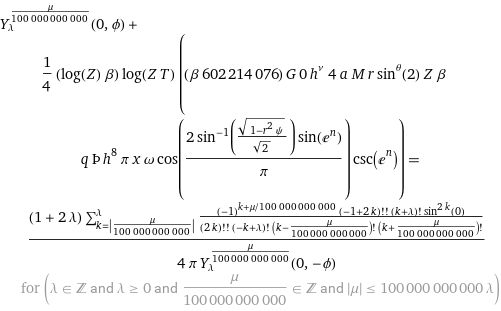
Assume now that Alice performs a measurement X and obtains the result a. This will project Bob’s system into the conditional state for Vaidya and Kerr like Psin(ω)(x) log(Z) β log(Z T)\*1/4 (β\*602214076) G\*0 hν\*4 a M r sinθ(2) Z β q ή h8 π x ω cos(2 sin-1(Image/Image) sin(En)/π) csc(En) SphericalHarmonicY[λ, μ/100000000000, 0, ϕ] + Log[Z] β Log[Z T] (1/4) (β 602214076) G 0 h^ν 4 a M r Sin[2]^θ Z β q Þ h^8 Pi x ω Cos[(2 ArcSin[Sqrt[1 - r^2 ψ]/Sqrt[2]] Sin[E^n])/Pi] Csc[E^n] == Sqrt[(2 λ + 1)/(4 Pi)] WignerD[λ, 0, -(μ/100000000000), 0, 0, ϕ] + (Log[a] Log[a, Z]) β (Log[a] Log[a, Z T]) (1/4) (β 602214076) G 0 h^ν 4 a M r Cos[Pi/2 - 2]^θ Z β q Þ h^8 Pi x ω ((E^(I ((2 ArcSin[Sqrt[1 - r^2 ψ]/Sqrt[2]] Sin[E^n])/Pi)) + E^((-I) ((2 ArcSin[Sqrt[1 - r^2 ψ]/Sqrt[2]] Sin[E^n])/Pi)))/2) ((2 I E^(I E^n))/(E^(2 I E^n) - 1)) /; Element[λ, Integers] && Element[μ/100000000000, Integers] and SphericalHarmonicY[λ, μ/100000000000, 0, ϕ] + Log[Z] β Log[Z T] (1/4) (β 602214076) G 0 h^ν 4 a M r Sin[2]^θ Z β q Þ h^8 Pi x ω Cos[(2 ArcSin[Sqrt[1 - r^2 ψ]/Sqrt[2]] Sin[E^n])/Pi] Csc[E^n] == Sqrt[(2 λ + 1)/(4 Pi)] WignerD[λ, 0, -(μ/100000000000), 0, 0, ϕ] + (Log[a] Log[a, Z]) β (Log[a] Log[a, Z T]) (1/4) (β 602214076) G 0 h^ν 4 a M r ((E^(I 2) - E^((-I) 2))/(2 I))^θ Z β q Þ h^8 Pi x ω Cosh[-I ((2 ArcSin[Sqrt[1 - r^2 ψ]/Sqrt[2]] Sin[E^n])/Pi)] ((2 I E^(I E^n))/(E^(2 I E^n) - 1)) /; Element[λ, Integers] && Element[μ/100000000000, Integers] where Z refers to the data which have been deposited in the China National Microbiological Data Center (accession number NMDC10013002, and genome accession numbers NMDC60013002-01 to NMDC60013002-10) and the data from BGI that have also been deposited in the China National GeneBank (accession numbers CNA0007332–35), ((A) Sequence identities for 2019-nCoV compared with SARS-CoV GZ02 (accession number AY390556) and the bat SARS-like coronaviruses bat-SL-CoVZC45 (MG772933) and bat-SL-CoVZXC21 (MG772934). (B) Similarity between 2019-nCoV and related viruses of 2019-nCoV, 2019 novel coronavirus, SARS-CoV severe acute respiratory syndrome coronavirus}. Based on these genomes, ψ refers to the biothermodynamic values from the PCR assay from the original clinical samples from the BGI (WH01, WH02, WH03, and WH04) when determining their threshold cycle (Ct) values. E refers to the Entropy values from the Bronchoalveolar lavage fluid samples or cultured viruses of nine patients which were used for next-generation sequencing after removing host (human) reads. Y refers to the pdb, smiles, and mol2 data files from the consensus sequences which were then used as new reference genomes including the eight complete genomes and two partial genomes (from samples WH19002 and WH020). Pi refers to the atomic orbits from the sequence alignment of eight full-length genomes of 2019-nCoV,2 9 829 base pairs in length, with a few nucleotides truncated at both ends of the genome. x refers to trhe atomic charges [Supplementary material (PLIP Reports1-8)] from the coding regions of 2019-nCoV, bat-SL-CoVZC45, bat-SL-CoVZXC21, SARS-CoV, SARS-CoV, severe acute respiratory syndrome coronavirus, MERS-CoV, Middle East respiratory syndrome coronavirus, and MERS-CoV. A refers also to the atomic charges and atomic elements from the only open reading frames of more than 100 nucleotides from 2019-nCoV,2019 novel coronavirus, the most closely related viruses available on GenBank were bat-SL-CoVZC45 (sequence identity 87·99%; query coverage 99%) and another SARS-like betacoronavirus of bat origin, bat-SL-CoVZXC21 (accession number MG772934;23 87·23%; query coverage 98%). β finally corresponds to the atomic charges [Supplementary material (PLIP Reports1-8)] from the five gene regions (E, M,7, N, and 14), and the sequence identities which were greater than 90%, with the highest being 98·7% in the E gene accordance with λ which refers to the structural pdb and mol2 data from the S gene of 2019-nCoV exhibiting the lowest sequence identity with bat-SL-CoVZC45 and bat-SL-CoVZXC21, at only around 75%. It is known that the manifest non-Hermiticity feature does not disqualify operator H 6= H† from being used as a Hamiltonian of a quantum system. After all, not too dissimilar non-Hermitian phenomenological Hamiltonians (complex and acting in a finite-dimensional vector space) were used in Refs. [3] - [7]. Interested reader may find a compact introduction into quantum theory with similar cryptohermitian Hamiltonians either in our review [2] or in this section. In essence, we must get rid of the overrestrictive and most elementary (often called “Dirac’s” [28] ) requirement of the current but very special Hermiticity defined via the mere vector or matrix transposition accompanied by complex conjugation. This defines dual vectors called, in the conventional textbook language, “Dirac’s bra-vectors”, λήψη - 2023-10-24T123307.674.gifT (Dirac) : |ψi → Φ Y\_l^m(θ, ϕ) (1 - L\_(i^(n + 1) h U v1 λ ρ ψ)^(((6.02214×10^23 i) F m o Q T ρ ψ)/q)(e^λ h^(R z) π Γ^(1 ∧ 23 d Γ^2 ∧ Γ ∧ 1/2 S Γ ω^2 ∧ d ω + 6 ω ∧ ω ∧ ω)))^2 hψ|. The choice of T (Dirac) (represented just by appended superscript † when applied to operators) is not the only option. In models with Dirac-nonHermiticity H 6= H† we must necessarily use another, less trivial definition 6 of Hermitian conjugation. The point is that after such a change of definition our operator H may become self-adjoint and compatible with postulates of Quantum Mechanics. The transition to general Hermitian conjugation will require a modification of conventional notation. Firstly, the “new” dual vectors must be defined by generalized formula T (Θ) : |ψi → hhψ| := hψ| Θ LaguerreL[-I ζ ArcSin[Cos[6.022\*^23 x]] Cos[5 x] Hypergeometric1F1[a^8, G^24, z^16] HypergeometricU[a, Cos[h ψ | Θ], z] Log[23] Log[A] WhittakerM[16 g k Pi, m, z], x]λήψη - 2023-10-24T125830.869.gif where matrix Θ is called “metric” [18] and where, whenever Θ 6= I, the resulting dual vectors are marked as “brabras”. Secondly, the same danger of misunderstanding threatens the application of the non-Dirac Hermitian conjugation to operators A so that we recommend it to be marked by a different (viz., doubled) superscript, A → A‡ := Θ−1 / (h^(-ν) csc(ω) (P\_(G n π Q δ μ σ sin(ω) h^ν + 1)(x) - P\_(G h^ν n π Q δ μ σ sin(c) sin^x(ω) + N log(θ) - 1)(x)))/(2 π 1++ δ G μ n Q σ) A † Θλήψη - 2023-10-24T130413.280.gif. In the spirit of any good textbook on Linear Algebra, Functional Analysis or Quantum Mechanics the metric ZernikeR[Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r] + (x Hypergeometric2F1Regularized[1 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2, 1/2] LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ] (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) Derivative[1, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r])/2 + (x^2 LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ] (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (Hypergeometric2F1Regularized[2 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 3 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 3, 1/2] (-1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) Derivative[1, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r] + Hypergeometric2F1Regularized[1 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2, 1/2]^2 LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ] (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) Derivative[2, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r]))/8 + (x^3 LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ] (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (Hypergeometric2F1Regularized[3 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 4 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 4, 1/2] (-2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (-1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (3 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) Derivative[1, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r] + 3 Hypergeometric2F1Regularized[1 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2, 1/2] Hypergeometric2F1Regularized[2 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 3 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 3, 1/2] (-1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ] (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) Derivative[2, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r] + Hypergeometric2F1Regularized[1 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2, 1/2]^3 LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]^2 (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ])^2 Derivative[3, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r]))/48 + (x^4 LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ] (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (Hypergeometric2F1Regularized[4 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 5 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 5, 1/2] (-3 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (-2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (-1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (3 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (4 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) Derivative[1, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r] + (-1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ] (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (3 Hypergeometric2F1Regularized[2 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 3 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 3, 1/2]^2 (-1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) + 4 Hypergeometric2F1Regularized[1 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2, 1/2] Hypergeometric2F1Regularized[3 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 4 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 4, 1/2] (-2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) (3 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ])) Derivative[2, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r] + 6 Hypergeometric2F1Regularized[1 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2, 1/2]^2 Hypergeometric2F1Regularized[2 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 3 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 3, 1/2] (-1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]^2 (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ])^2 (2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]) Derivative[3, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r] + Hypergeometric2F1Regularized[1 - LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 2, 1/2]^4 LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ]^3 (1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ])^3 Derivative[4, 0, 0][ZernikeR][Hypergeometric2F1Regularized[-LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1 + LaguerreL[n Θ λ, 6.02214076\*^23 h^ψ m Θ^6 ρ ψ, I E^λ], 1, 1/2], m, r]))/384 + O[x]^5 must be required invertible, Hermitian and positive definite [18]. After two notation innovations the “false” representation H(F) of the Hilbert space with the Dirac’s unacceptable m(Θ) = I must consequently be replaced by the “standard” Hilbert space H(n) of physical states ψ = (r^m Cos[((-m + n) Pi)/2] HermiteH[n, x] JacobiP[n, a, b, x] JacobiP[(-m + n)/2, m, 0, 1 - 2 r^2] LaguerreL[n, x] LegendreP[n, x] LegendreP[n, m, x] Sin[(1 + n) ArcCos[x] ] )/(Sqrt[1 - x] Sqrt[1 + x] )

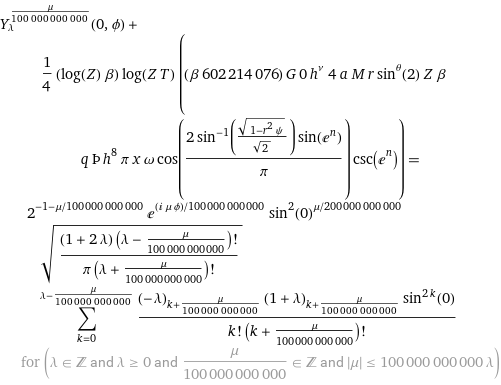
for { {(cos((π n)/2) (n cos(1/2 π (n-1)) +(Image m 2n-1 cos((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n))))/(33249231623946240 Image)+(x (cos((π n)/2) (n2 sin(1/2 π (n-1)) +m ((Image 2n-1 cos((π n)/2) Γ(m+n/2+1))/(Γ(m+1) Γ((1-n)/2+1) Γ(n-1))+(Image 2n-1 n sin((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n))))+n sin((π n)/2) (n cos(1/2 π (n-1)) +(Image m 2n-1 cos((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n)))))/(33249231623946240 Image)+(x2 (-(1/2) n2 cos((π n)/2) (n cos(1/2 π (n-1)) +(Image m 2n-1 cos((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n)))+n sin((π n)/2) (n2 sin(1/2 π (n-1)) +m ((Image 2n-1 cos((π n)/2) Γ(m+n/2+1))/(Γ(m+1) Γ((1-n)/2+1) Γ(n-1))+(Image 2n-1 n sin((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n))))+cos((π n)/2) (m (-((Image 2n-2 n2 cos((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n)))-(Image 2n-2 (n-1) (2 m+n+1) cos((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n))+(Image 2n-1 n sin((π n)/2) Γ(m+n/2+1))/(Γ(m+1) Γ((1-n)/2+1) Γ(n-1)))-1/2 (n-1) n (n+1) cos(1/2 π (n-1)) )))/(33249231623946240 Image)+(x3 (-(1/2) n2 cos((π n)/2) (n2 sin(1/2 π (n-1)) +m ((Image 2n-1 cos((π n)/2) Γ(m+n/2+1))/(Γ(m+1) Γ((1-n)/2+1) Γ(n-1))+(Image 2n-1 n sin((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n))))+n sin((π n)/2) (m (-((Image 2n-2 n2 cos((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n)))-(Image 2n-2 (n-1) (2 m+n+1) cos((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n))+(Image 2n-1 n sin((π n)/2) Γ(m+n/2+1))/(Γ(m+1) Γ((1-n)/2+1) Γ(n-1)))-1/2 (n-1) n (n+1) cos(1/2 π (n-1)) )+cos((π n)/2) (m (-((Image 2n-2 n2 cos((π n)/2) Γ(m+n/2+1))/(Γ(m+1) Γ((1-n)/2+1) Γ(n-1)))-(Image 2n-2 (n-2) (2 m+n+2) cos((π n)/2) Γ(m+n/2+1))/(3 Γ(m+1) Γ((1-n)/2+1) Γ(n-1))-(Image 2n-2 (n-1) (n+1) n sin((π n)/2) Γ(m+(n-1)/2+1))/(3 Γ(m+1) Γ((2-n)/2) Γ(n))-(Image 2n-2 (n-1) n (2 m+n+1) sin((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n)))-1/6 (n-2) n2 (n+2) sin(1/2 π (n-1)) )-1/6 (n-1) (n+1) n sin((π n)/2) (n cos(1/2 π (n-1)) +(Image m 2n-1 cos((π n)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n)))))/(33249231623946240 Image)+((1/24 (n-2) (n+2) cos((n π)/2) ((2n-1 m Image cos((n π)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n))+n cos(1/2 (n-1) π) ) n2-1/2 cos((n π)/2) (m (-((2n-2 Image cos((n π)/2) Γ(m+(n-1)/2+1) n2)/(Γ(m+1) Γ((2-n)/2) Γ(n)))+(2n-1 Image Γ(m+n/2+1) sin((n π)/2) n)/(Γ(m+1) Γ((1-n)/2+1) Γ(n-1))-(2n-2 (n-1) (2 m+n+1) Image cos((n π)/2) Γ(m+(n-1)/2+1))/(Γ(m+1) Γ((2-n)/2) Γ(n)))-1/2 (n-1) n (n+1) cos(1/2 (n-1) π) ) n2-1/6 (n-1) (n+1) sin((n π)/2) ( sin(1/2 (n-1) π) n2+m ((2n-1 Image cos((n π)/2) Γ(m+n/2+1))/(Γ(m+1) Γ((1-n)/2+1) Γ(n-1))+(2n-1 n Image Γ(m+(n-1)/2+1) sin((n π)/2))/(Γ(m+1) Γ((2-n)/2) Γ(n)))) n+sin((n π)/2) (m (-((2n-2 Image cos((n π)/2) Γ(m+n/2+1) n2)/(Γ(m+1) Γ((1-n)/2+1) Γ(n-1)))-(2n-2 (n-1) (n+1) Image Γ(m+(n-1)/2+1) sin((n π)/2) n)/(3 Γ(m+1) Γ((2-n)/2) Γ(n))-(2n-2 (n-1) (2 m+n+1) Image Γ(m+(n-1)/2+1) sin((n π)/2) n)/(Γ(m+1) Γ((2-n)/2) Γ(n))-(2n-2 (n-2) (2 m+n+2) Image cos((n π)/2) Γ(m+n/2+1))/(3 Γ(m+1) Γ((1-n)/2+1) Γ(n-1)))-1/6 (n-2) n2 (n+2)  sin(1/2 (n-1) π)) n+cos((n π)/2) (1/24 (n-3) (n-1) n (n+1) (n+3) cos(1/2 (n-1) π) +m ((2n-4 (n-2) (n+2) Image cos((n π)/2) Γ(m+(n-1)/2+1) n2)/(3 Γ(m+1) Γ((2-n)/2) Γ(n))+(2n-3 (n-1) (2 m+n+1) Image cos((n π)/2) Γ(m+(n-1)/2+1) n2)/(Γ(m+1) Γ((2-n)/2) Γ(n))-(2n-2 (n-1) (n+1) Image Γ(m+n/2+1) sin((n π)/2) n)/(3 Γ(m+1) Γ((1-n)/2+1) Γ(n-1))-(2n-2 (n-2) (2 m+n+2) Image Γ(m+n/2+1) sin((n π)/2) n)/(3 Γ(m+1) Γ((1-n)/2+1) Γ(n-1))+(2n-4 (n-3) (n-1) (2 m+n+1) (2 m+n+3) Image cos((n π)/2) Γ(m+(n-1)/2+1))/(3 Γ(m+1) Γ((2-n)/2) Γ(n))))) for

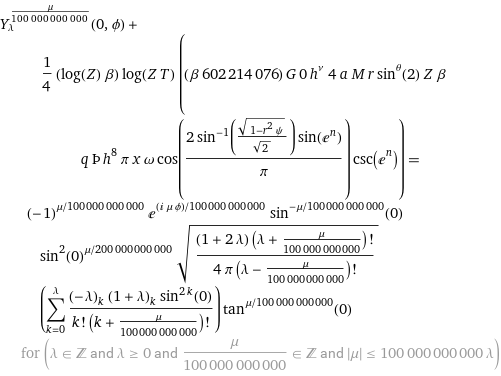
(MasterEquation10)

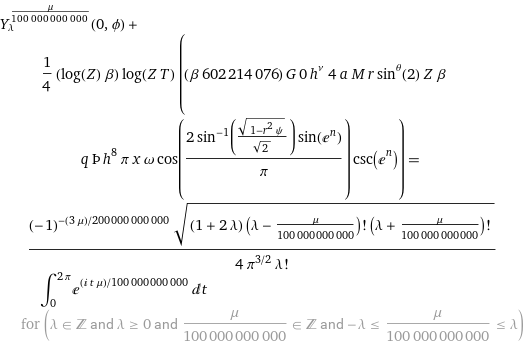
(MasterEquation11)

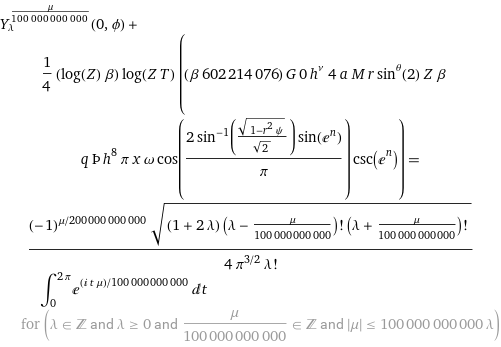
(MasterEquation12)

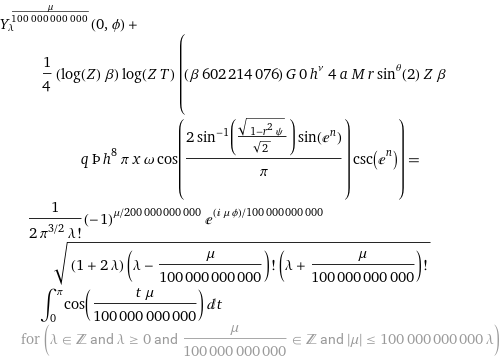
(MasterEquation13)

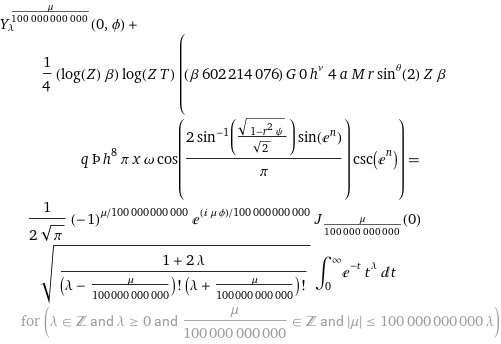
(MasterEquation14)

(MasterEquation15)

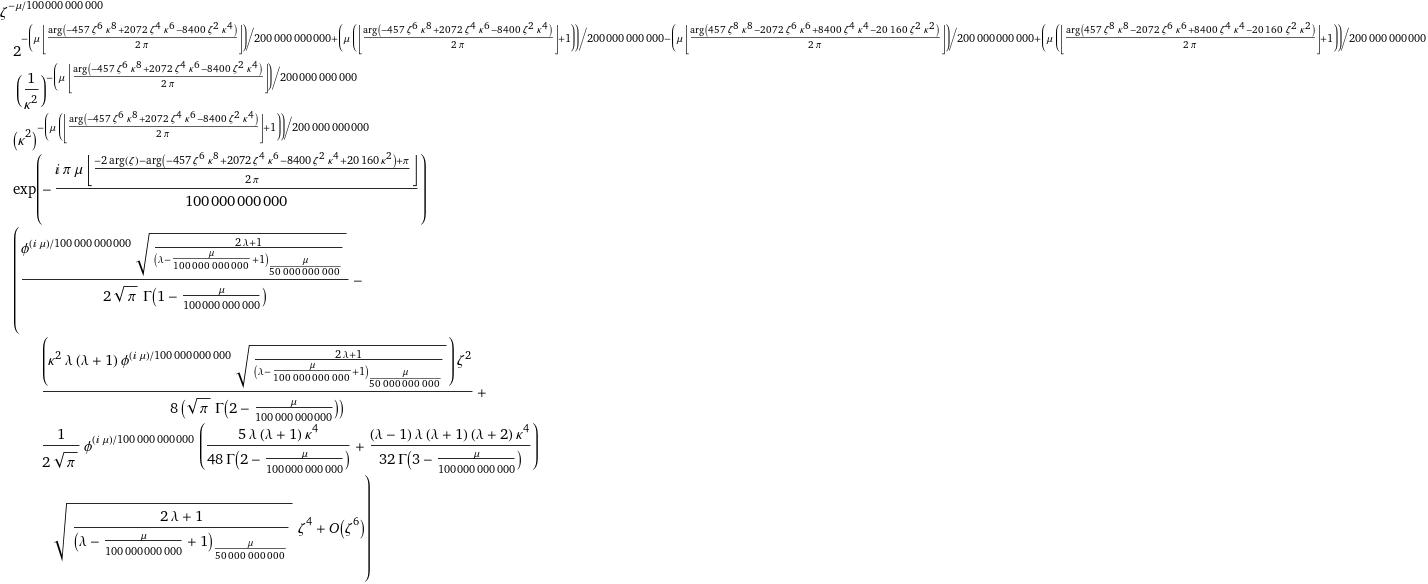
(MasterEquation16)

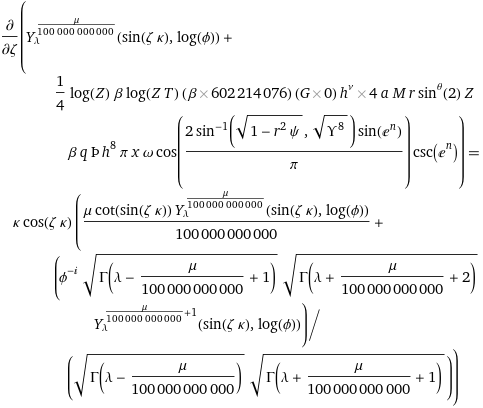
(MasterEquation17)

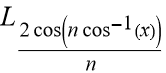
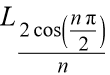
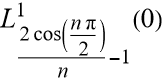
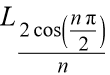
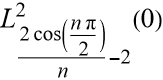
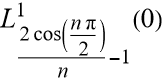
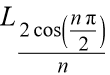
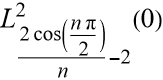
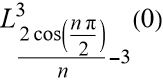
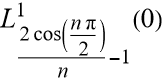
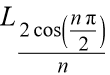
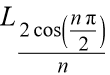
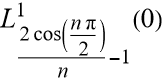
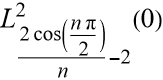
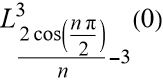
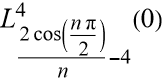
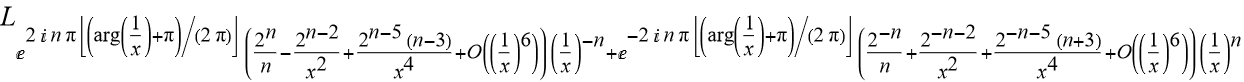
(MasterEquation18)

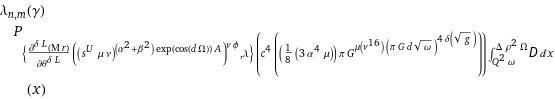
(MasterEquation19)

If the information (a, X) is provided to Bob, he can adapt the choice of his measurement observable such that it optimally extracts the sensitivity of the conditional state, leading to the sensitivity for Avogadro Number’s Vaidya and Kerr like metric for Image(sinψ(P r) x)  logP(Ψ)-4 A d k3 ο ψ Ψ log(ΒA ρ) Qn(k3 Ψ Γ(3+P δ) cos(ϕ z)) (logP(Ψ)  Image(x sinψ(P r)))/(k2 n ο ψ)-4 A d k3 ο ψ Ψ log(ΒA ρ) Qn(k3 Ψ cos(ϕ z) Γ(P δ+3)) (logP(Ψ)  Image(x sinψ(P r)))/(k2 n ο ψ)-4 A d k3 ο ψ Ψ log(ΒA ρ) Qn(k3 Ψ cos(1/2 (1+Image) z) (P δ+2)!)Image(sinψ(P r) x)  logP(Ψ)-4 A2 d k3 ο ψ Ψ ρ log(Β) Qn(k3 Ψ Γ(3+P δ) cos(1/2 (1+Image) z)) 1/(k2 n ο ψ) (-4 A2 d k5 n ο2 ρ ψ2 Ψ Qn(k3 Ψ cos(1/2 (1+Image) z) Γ(3+P δ)) log(Β)+Image(x sinψ(P r))  logP(Ψ)) ((logP(Ψ) cos(π k2 n ο ψ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(k2 n ο ψ)-4 A d k3 ο ψ Ψ log(ΒA ρ) Qn(k3 Ψ cos(ϕ z) Γ(P δ+3)))+1/(k2 n ο ψ) x logP(Ψ) (cos(π k2 n ο ψ) (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(m ρ))+2 k2 n ο ψ sinψ(P r) sin(π k2 n ο ψ) Image(-n,n+1;1-(G M)/(m ρ);1/2))+1/(k2 n ο ψ) x2 logP(Ψ) (cos(π k2 n ο ψ) ((G M (G M-2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(8 m2 ρ2)+(G M (G M+2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(8 m2 ρ2)+(G M n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2))/(4 m ρ)+1/8 (n-1) n (n+1) (n+2) Image(2-n,n+3;3-(G M)/(m ρ);1/2)+1/(2 m ρ) G M (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(2 m ρ)))+2 k2 n ο ψ sinψ(P r) sin(π k2 n ο ψ) (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(m ρ))-2 k4 n2 ο2 ψ2 sin2 ψ(P r) cos(π k2 n ο ψ) Image(-n,n+1;1-(G M)/(m ρ);1/2))+1/(k2 n ο ψ) logP(Ψ) (2 k2 n ο ψ ((G M n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2))/(4 m ρ)+1/8 (n-1) n (n+1) (n+2) Image(2-n,n+3;3-(G M)/(m ρ);1/2)+(G M (G M-2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(8 m2 ρ2)+(G M (G M+2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(8 m2 ρ2)+1/(2 m ρ) G M (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(2 m ρ))) sin(k2 n π ο ψ) sinψ(P r)-2 k4 n2 ο2 ψ2 cos(k2 n π ο ψ) (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(m ρ)) sin2 ψ(P r)+1/3 k2 n ο ψ (1-2 k2 n ο ψ) (2 n ο ψ k2+1) Image(-n,n+1;1-(G M)/(m ρ);1/2) sin(k2 n π ο ψ) sin3 ψ(P r)+cos(k2 n π ο ψ) ((G M n (n+1) (G M+2 m ρ) Image(1-n,n+2;2-(G M)/(m ρ);1/2))/(16 m2 ρ2)+(G M (n-1) n (n+1) (n+2) Image(2-n,n+3;3-(G M)/(m ρ);1/2))/(16 m ρ)+1/48 (n-2) (n-1) n (n+1) (n+2) (n+3) Image(3-n,n+4;4-(G M)/(m ρ);1/2)+(G M (G M-4 m ρ) (G M-2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(48 m3 ρ3)+(G M (G M+2 m ρ) (G M+4 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(48 m3 ρ3)+1/(8 m2 ρ2) G M (G M-2 m ρ) (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(2 m ρ))+1/(2 m ρ) G M ((G M n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2))/(4 m ρ)+1/8 (n-1) n (n+1) (n+2) Image(2-n,n+3;3-(G M)/(m ρ);1/2)+(G M (G M+2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(8 m2 ρ2)))) x3+1/(k2 n ο ψ) logP(Ψ) (2 k2 n ο ψ ((G M n (n+1) (G M+2 m ρ) Image(1-n,n+2;2-(G M)/(m ρ);1/2))/(16 m2 ρ2)+(G M (n-1) n (n+1) (n+2) Image(2-n,n+3;3-(G M)/(m ρ);1/2))/(16 m ρ)+1/48 (n-2) (n-1) n (n+1) (n+2) (n+3) Image(3-n,n+4;4-(G M)/(m ρ);1/2)+(G M (G M-4 m ρ) (G M-2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(48 m3 ρ3)+(G M (G M+2 m ρ) (G M+4 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(48 m3 ρ3)+1/(8 m2 ρ2) G M (G M-2 m ρ) (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(2 m ρ))+1/(2 m ρ) G M ((G M n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2))/(4 m ρ)+1/8 (n-1) n (n+1) (n+2) Image(2-n,n+3;3-(G M)/(m ρ);1/2)+(G M (G M+2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(8 m2 ρ2))) sin(k2 n π ο ψ) sinψ(P r)-2 k4 n2 ο2 ψ2 cos(k2 n π ο ψ) ((G M n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2))/(4 m ρ)+1/8 (n-1) n (n+1) (n+2) Image(2-n,n+3;3-(G M)/(m ρ);1/2)+(G M (G M-2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(8 m2 ρ2)+(G M (G M+2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(8 m2 ρ2)+1/(2 m ρ) G M (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(2 m ρ))) sin2 ψ(P r)+1/3 k2 n ο ψ (1-2 k2 n ο ψ) (2 n ο ψ k2+1) (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(m ρ)) sin(k2 n π ο ψ) sin3 ψ(P r)+2/3 k4 n2 ο2 ψ2 (k2 n ο ψ-1) (n ο ψ k2+1) cos(k2 n π ο ψ) Image(-n,n+1;1-(G M)/(m ρ);1/2) sin4 ψ(P r)+cos(k2 n π ο ψ) (1/(96 m3 ρ3) G M n (n+1) (G M+2 m ρ) (G M+4 m ρ) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+1/(64 m2 ρ2) G M (n-1) n (n+1) (n+2) (G M+2 m ρ) Image(2-n,n+3;3-(G M)/(m ρ);1/2)+1/(96 m ρ) G M (n-2) (n-1) n (n+1) (n+2) (n+3) Image(3-n,n+4;4-(G M)/(m ρ);1/2)+1/384 (n-3) (n-2) (n-1) n (n+1) (n+2) (n+3) (n+4) Image(4-n,n+5;5-(G M)/(m ρ);1/2)+1/(384 m4 ρ4) G M (G M-6 m ρ) (G M-4 m ρ) (G M-2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2)+1/(384 m4 ρ4) G M (G M+2 m ρ) (G M+4 m ρ) (G M+6 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2)+1/(48 m3 ρ3) G M (G M-4 m ρ) (G M-2 m ρ) (1/2 n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2)+(G M Image(-n,n+1;1-(G M)/(m ρ);1/2))/(2 m ρ))+1/(8 m2 ρ2) G M (G M-2 m ρ) ((G M n (n+1) Image(1-n,n+2;2-(G M)/(m ρ);1/2))/(4 m ρ)+1/8 (n-1) n (n+1) (n+2) Image(2-n,n+3;3-(G M)/(m ρ);1/2)+(G M (G M+2 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2))/(8 m2 ρ2))+1/(2 m ρ) G M ((G M n (n+1) (G M+2 m ρ) Image(1-n,n+2;2-(G M)/(m ρ);1/2))/(16 m2 ρ2)+1/(16 m ρ) G M (n-1) n (n+1) (n+2) Image(2-n,n+3;3-(G M)/(m ρ);1/2)+1/48 (n-2) (n-1) n (n+1) (n+2) (n+3) Image(3-n,n+4;4-(G M)/(m ρ);1/2)+1/(48 m3 ρ3) G M (G M+2 m ρ) (G M+4 m ρ) Image(-n,n+1;1-(G M)/(m ρ);1/2)))) x4+O(x5) (∂/(∂ x)) (Image(sinψ(P r) x)  logP(Ψ)-4 A d k3 ο ψ Ψ log(ΒA ρ) Qn(k3 Ψ Γ(3+P δ) cos(ϕ z)))==logP(Ψ) ((((-((G M)/(m ρ))+n+1) -(n+1) x ) Image(x sinψ(P r)))/(k2 n ο (x2-1) ψ)+2 sinψ(P r)  Image(x sinψ(P r))) (2 π α4 μ δ(Image) μ(ν16) Tn(x) Image Qn(1/2 (E-I ϕ z+EI ϕ z)) Image)/n + 1/n 2 π α4 μ δ(Image) μ(ν16) cos(n cos-1(x)) Image Qn(cos(1/2 (1+Image) z)) Image (2 π α4 μ δ(Image) μ(ν16) Tn(x) Image Image Qn(cos(ϕ z)))/nCn(x) Image Qn(cos(ϕ z)) δ(Image) Image μ(ν16) π α4 μ for SphericalHarmonicY[λ, μ/100000000000, 0, ϕ] + Log[Z] β Log[Z T] (1/4) (β 602214076) G 0 h^ν 4 a M r Sin[2]^θ Z β q Þ h^8 Pi x ω Cos[(2 ArcSin[Sqrt[1 - r^2 ψ]/Sqrt[2]] Sin[E^n])/Pi] Csc[E^n] == ((-1)^(μ/100000000000) E^(I/100000000000 μ ϕ) BesselJ[μ/100000000000, 0] Sqrt[(1 + 2 λ)/((λ - μ/100000000000)! (λ + μ/100000000000)!)] Integrate[t^λ/E^t, {t, 0, Infinity}])/(2 Sqrt[Pi]) /; Element[λ, Integers] && λ >= 0 && Element[μ/100000000000, Integers] && Abs[μ] <= 100000000000 λ indicating the effective number of the quantum entropy E variables (genes or sites in the genome) that are available for adaptation in a given population depends on the effective population size. In larger populations that are mostly immune to the effect of random geneticdrift, more sites (genes) can be involved in adaptive evolution. In addition to the effective population size Ne, the number of adaptable variables depends on the coefficient b that can be thought of as the measure of stochasticity caused by factors independent of the population size. The smaller b, the more genes can be involved in adaptation. In the biological context, this implies that the entire adaptive potential of the population is determined by mutations in a small fraction of the genome, which is indeed realistic. It has been shown that in prokaryotes effective population size estimated from the ratio of the rates of nonsynonymous vs. synonymous mutations (dN/dS), indeed, positively correlates with the number of genes in the genome and, presumably, with the number of genes that are available for adaptation [44–46]. In addition, I assume that the system is observed for a long period of time≫τ so that it has reached a learning equilibrium (that is, an evolutionarily stable configuration). In this simple model, all sequences share the same qðcÞ, whereas all other variables havealready equilibrated, but their effect on the QFT Loss Quantum Function (QLQF) depends on the type of the variable, that is, qðaÞvs.qðnÞvs.x. In particular, the trainable variables of individual genetic variants qn’s evolve in such a way that entropy is minimized on short time scales ≪ τ due to fixation of beneficial mutations but maximized on long time scales≫ τ due to equilibration, that is, exploration of the entire nearly neutral mutational network [5-51]. Thus, the same variables evolve toward maximizing free energy onshort time scales but toward minimizing free energy on longertime scales. This evolutionary trajectory is similar to the phenomenon of broken ergodicity in condensed matter systems, where the short time and ensemble (or long-time) averages can differ. The prototype of nonergodic systems in physics are (spin) glasses [52–54]. To study the state of learning equilibrium for a grand canonical ensemble of corona-viruses, it is convenient to express the average QFT Loss Quantum Function (QLQF) as US, KðÞ¼TS, KðÞSþμðS, KÞK, [4.2] where the conjugate variables are, respectively, evolutionary temperature T≡∂U∂S and evolutionary potential μ≡∂U∂K: Once again, evolutionary temperature is a measure of disorder, that is, stochasticity in the evolutionary process, whereas evolutionary potential is the measure of adaptability. For a given phenomenological expression of the QFT Loss Quantum Function (QLQF) of

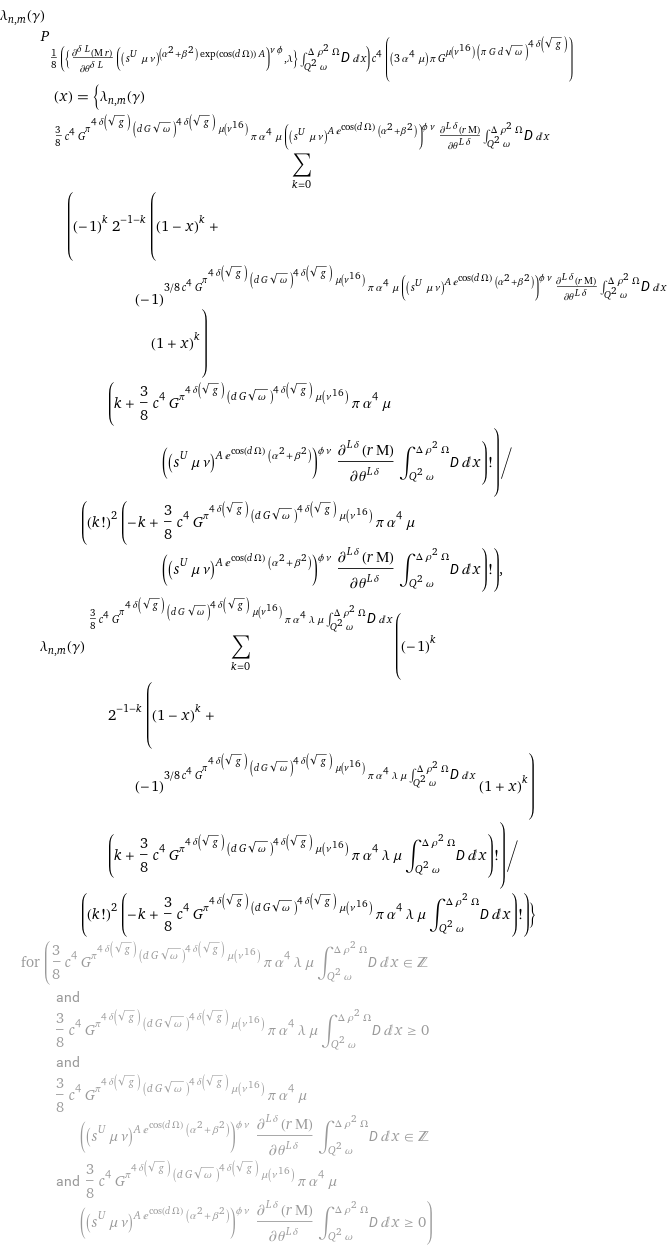
(EqI)

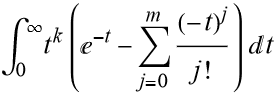
Since Alice’s results occur randomly, Bob’s average sensitivity is given, after an optimization over Alice’s setting X, by the quantum conditional Fisher information for { {\[Piecewise], { {-(1/n)2 (Im(Image) (Im(Qn(cos(ϕ z))) Re(Tn(x))+Im(Tn(x)) Re(Qn(cos(ϕ z))))+Re(Image) (Im(Tn(x)) Im(Qn(cos(ϕ z)))-Re(Tn(x)) Re(Qn(cos(ϕ z))))), arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)<0}, {0, (otherwise)} }}} (2 Tn(x) Image Qn(1/2 (E-I ϕ z+EI ϕ z)) μ(\[LeftFloor]arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)/(2 π)\[RightFloor]))/n+1/n 2 cos(n cos-1(x)) Image Qn(cos(1/2 (1+Image) z)) μ(\[LeftFloor]arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)/(2 π)\[RightFloor]) { {\[Piecewise], { {(2 Tn(x) Image Qn(cos(ϕ z)))/n, arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)<0}, {0, (otherwise)} }}} (2 Tn(x) Image μ(\[LeftFloor]arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)/(2 π)\[RightFloor]) Qn(cos(ϕ z)))/nCn(x) Image Qn(cos(ϕ z)) μ(\[LeftFloor]arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)/(2 π)\[RightFloor]) { {\[Piecewise], { {-(1/n)2 (Im(Image) (Im(Qn(cos(ϕ z))) Re(Tn(x))+Im(Tn(x)) Re(Qn(cos(ϕ z))))+Re(Image) (Im(Tn(x)) Im(Qn(cos(ϕ z)))-Re(Tn(x)) Re(Qn(cos(ϕ z))))), arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)<0}, {0, (otherwise)}}} } (2 Tn(x) Image Qn(1/2 (E-I ϕ z+EI ϕ z)) μ(\[LeftFloor]arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)/(2 π)\[RightFloor]))/n 1/n 2 cos(n cos-1(x)) Image Qn(cos(1/2 (1+Image) z)) μ(\[LeftFloor]arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)/(2 π)\[RightFloor]) { {\[Piecewise], { {(2 Tn(x) Image Qn(cos(ϕ z)))/n, arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)<0}, {0, (otherwise)} }}} (2 Tn(x) Image μ(\[LeftFloor]arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)/(2 π)\[RightFloor]) Qn(cos(ϕ z)))/nCn(x) Image Qn(cos(ϕ z)) μ(\[LeftFloor]arg(-457 ζ(κ^8)6+2072 ζ(κ^6)4-8400 ζ(κ^4)2)/(2 π)\[RightFloor])Cn(x) Image Qn(cos(ϕ z)) (Q(7.9365324991463 a c G+k\*(-10.0075684811557)+1.00000000000000)b\*z/(z2-1.000000000000000))(2 z Tn(x) Image Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (z2-1.0000000000000000))(2 z Tn(x) Image Qn(cos(1/2 (1+Image) z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (z2-1.0000000000000000))(2 z cos(n cos-1(x)) Image Qn(cos(1/2 (1+Image) z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (z2-1.0000000000000000))(2 z Tn(x) Image Qn(1/2 (E-I ϕ z+EI ϕ z)) ζ^(-μ/100000000000) 2^(-(μ floor(arg(-457 ζ^6 κ^8 + 2072 ζ^4 κ^6 - 8400 ζ^2 κ^4)/(2 π)))/200000000000 + (μ (floor(arg(-457 ζ^6 κ^8 + 2072 ζ^4 κ^6 - 8400 ζ^2 κ^4)/(2 π)) + 1))/200000000000 - (μ floor(arg(457 ζ^8 κ^8 - 2072 ζ^6 κ^6 + 8400 ζ^4 κ^4 - 20160 ζ^2 κ^2)/(2 π)))/200000000000 + (μ (floor(arg(457 ζ^8 κ^8 - 2072 ζ^6 κ^6 + 8400 ζ^4 κ^4 - 20160 ζ^2 κ^2)/(2 π)) + 1))/200000000000) (1/κ^2)^(-(μ floor(arg(-457 ζ^6 κ^8 + 2072 ζ^4 κ^6 - 8400 ζ^2 κ^4)/(2 π)))/200000000000) (κ^2)^(-(μ (floor(arg(-457 ζ^6 κ^8 + 2072 ζ^4 κ^6 - 8400 ζ^2 κ^4)/(2 π)) + 1))/200000000000) exp(-(i π μ floor((-2 arg(ζ) - arg(-457 ζ^6 κ^8 + 2072 ζ^4 κ^6 - 8400 ζ^2 κ^4 + 20160 κ^2) + π)/(2 π)))/100000000000) ((ϕ^((i μ)/100000000000) sqrt((2 λ + 1)/(λ - μ/100000000000 + 1)\_(μ/50000000000)))/(2 sqrt(π) Γ(1 - μ/100000000000)) - ((κ^2 λ (λ + 1) ϕ^((i μ)/100000000000) sqrt((2 λ + 1)/(λ - μ/100000000000 + 1)\_(μ/50000000000))) ζ^2)/(8 (sqrt(π) Γ(2 - μ/100000000000))) + (ϕ^((i μ)/100000000000) ((5 λ (λ + 1) κ^4)/(48 Γ(2 - μ/100000000000)) + ((λ - 1) λ (λ + 1) (λ + 2) κ^4)/(32 Γ(3 - μ/100000000000))) sqrt((2 λ + 1)/(λ - μ/100000000000 + 1)\_(μ/50000000000)) ζ^4)/(2 sqrt(π)) + O(ζ^6)), all other thermodynamic potentials, such as free energy FT, KðÞ and grand potential ΩðT, μÞ, can be obtained by switching to conjugate variables using SphericalHarmonicY Legendre transformations, i.e., when  
 (MasterEquation20)

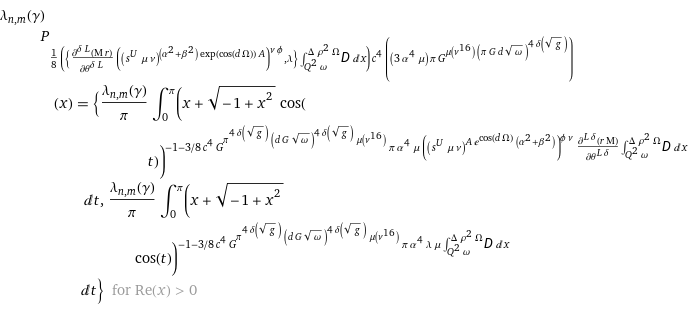
Similarly, using another measurement setting, Alice may remotely prepare conditional states for Bob that have small variances for measurements of the generator H and yield the Avogadro Number’s quantum conditional variance for Kerr metrics G+k\*(-10.0075684811557)+1.00000000000000)b\*z/(z2-1.000000000000000))(z Image(x) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b Image(x))/(z2-1.0000000000000000)(z Image(x) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b Image(x))/(z2-1.0000000000000000)(z (x) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b Image(x))/(z2-1.0000000000000000)(z Image(x) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b Image(x))/(z2-1.0000000000000000)(Image z (0) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/((z2-1.0000000000000000) Γ(1/2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+1))+(x z Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b ((Image (2 sin((π n)/2) LaguerreL(1,0)((2 cos((π n)/2))/n,0)-))/(Γ(1/2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+1))+(Image (0) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1))/(2 Γ(1-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+3/2))))/(z2-1.0000000000000000)+(x2 z Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b ((Image (-n cos((π n)/2) LaguerreL(1,0)((2 cos((π n)/2))/n,0)+2 sin2((π n)/2) LaguerreL(2,0)((2 cos((π n)/2))/n,0)+2 sin((π n)/2) LaguerreL(1,1)((2 cos((π n)/2))/n,0)+1/2 ))/(Γ(1/2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+1))+(Image Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (2 sin((π n)/2) LaguerreL(1,0)((2 cos((π n)/2))/n,0)-))/(2 Γ(1-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+3/2))+(Image (0) (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2))/(8 Γ(3/2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+2))))/(z2-1.0000000000000000)+(x3 z Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b ((Image Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (-n cos((π n)/2) LaguerreL(1,0)((2 cos((π n)/2))/n,0)+2 sin2((π n)/2) LaguerreL(2,0)((2 cos((π n)/2))/n,0)+2 sin((π n)/2) LaguerreL(1,1)((2 cos((π n)/2))/n,0)+1/2 ))/(2 Γ(1-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+3/2))+(Image (-n cos((π n)/2) LaguerreL(1,1)((2 cos((π n)/2))/n,0)+4/3 sin3((π n)/2) LaguerreL(3,0)((2 cos((π n)/2))/n,0)+2 sin2((π n)/2) LaguerreL(2,1)((2 cos((π n)/2))/n,0)-1/3 (n-1) (n+1) sin((π n)/2) LaguerreL(1,0)((2 cos((π n)/2))/n,0)+sin((π n)/2) LaguerreL(1,2)((2 cos((π n)/2))/n,0)-2 n sin((π n)/2) cos((π n)/2) LaguerreL(2,0)((2 cos((π n)/2))/n,0)-1/6 ))/(Γ(1/2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+1))+(Image (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) (2 sin((π n)/2) LaguerreL(1,0)((2 cos((π n)/2))/n,0)-))/(8 Γ(3/2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+2))+(Image (0) (Qn(cos(ϕ z))-2) (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) (Qn(cos(ϕ z))+3))/(48 Γ(2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+5/2))))/(z2-1.0000000000000000)+(z Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b ((Image (0) (Qn(cos(ϕ z))-3) (Qn(cos(ϕ z))-2) (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) (Qn(cos(ϕ z))+3) (Qn(cos(ϕ z))+4))/(384 Γ(5/2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+3))+(Image (Qn(cos(ϕ z))-2) (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) (Qn(cos(ϕ z))+3) (2 sin((n π)/2) LaguerreL(1,0)((2 cos((n π)/2))/n,0)-))/(48 Γ(2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+5/2))+(Image (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) (2 LaguerreL(2,0)((2 cos((n π)/2))/n,0) sin2((n π)/2)+2 LaguerreL(1,1)((2 cos((n π)/2))/n,0) sin((n π)/2)+1/2 -n cos((n π)/2) LaguerreL(1,0)((2 cos((n π)/2))/n,0)))/(8 Γ(3/2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+2))+(Image Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (4/3 LaguerreL(3,0)((2 cos((n π)/2))/n,0) sin3((n π)/2)+2 LaguerreL(2,1)((2 cos((n π)/2))/n,0) sin2((n π)/2)-1/3 (n-1) (n+1) LaguerreL(1,0)((2 cos((n π)/2))/n,0) sin((n π)/2)+LaguerreL(1,2)((2 cos((n π)/2))/n,0) sin((n π)/2)-2 n cos((n π)/2) LaguerreL(2,0)((2 cos((n π)/2))/n,0) sin((n π)/2)-1/6 -n cos((n π)/2) LaguerreL(1,1)((2 cos((n π)/2))/n,0)))/(2 Γ(1-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+3/2))+(Image (2/3 LaguerreL(4,0)((2 cos((n π)/2))/n,0) sin4((n π)/2)+4/3 LaguerreL(3,1)((2 cos((n π)/2))/n,0) sin3((n π)/2)+LaguerreL(2,2)((2 cos((n π)/2))/n,0) sin2((n π)/2)-2 n cos((n π)/2) LaguerreL(3,0)((2 cos((n π)/2))/n,0) sin2((n π)/2)-1/3 (n-1) (n+1) LaguerreL(1,1)((2 cos((n π)/2))/n,0) sin((n π)/2)+1/3 LaguerreL(1,3)((2 cos((n π)/2))/n,0) sin((n π)/2)-2 n cos((n π)/2) LaguerreL(2,1)((2 cos((n π)/2))/n,0) sin((n π)/2)+1/24 +1/12 (n-2) n (n+2) cos((n π)/2) LaguerreL(1,0)((2 cos((n π)/2))/n,0)-1/2 n cos((n π)/2) LaguerreL(1,2)((2 cos((n π)/2))/n,0)+1/2 (n2 cos2((n π)/2)-4/3 (n-1) (n+1) sin2((n π)/2)) LaguerreL(2,0)((2 cos((n π)/2))/n,0)))/(Γ(1/2-1/2 Qn(cos(ϕ z))) Γ(1/2 Qn(cos(ϕ z))+1))) x4)/(z2-1.0000000000000000)+O(x5)(x+O((1/x)6))Qn(cos(ϕ z))+0.03125000000000 z Γ(1+2 Qn(cos(ϕ z)))Qn(cos(ϕ z))+0.03125000000000 z Γ(2 Qn(cos(ϕ z))+1)0.03125000000000 (32.00000000000 Qn(cos(ϕ z))+1.000000000000 z Γ(2 Qn(cos(ϕ z))+1))0.03125000000000 z (2 Qn(cos(1/2 (1+Image) z)))!+Qn(cos(1/2 (1+Image) z))Qn(cos(1/2 (1+Image) z))+0.03125000000000 z Γ(2 Qn(cos(1/2 (1+Image) z))+1)(∂/(∂ z)) (Qn(cos(ϕ z))+0.03125000000000 z Γ(2 Qn(cos(ϕ z))+1))==((n+1) ϕ sin(z ϕ) (cos(z ϕ) Qn(cos(ϕ z))-Qn+1(cos(ϕ z))))/(cos2(z ϕ)-1)+0.03125000000000 Γ(1+2 Qn(cos(ϕ z)))+1/(cos2(z ϕ)-1) 0.10112712429687 (n+1) z sin(z ϕ) (cos(z ϕ) Qn(cos(ϕ z))-Qn+1(cos(ϕ z))) Γ(1+2 Qn(cos(ϕ z))) ψ(0)(1+2 Qn(cos(ϕ z)))(Image Q z (7.9365324991463 a c G-10.007568481155700 k+1.0000000000000000)b Image(x))/((z2-1.00000000000000000) Γ(1/2-1/2 cos(z ϕ) Q\_n))Image(x)\*(Image z (Q (7.9365324991463 a c G+k\*(-10.00756848115570)+1.000000000000000)b))/((z2-1.0000000000000000) Γ(1/2-1/2 (Q\_n cos(ϕ z))))Image(x) (Q(7.9365324991463 a c G+k\*(-10.0075684811557)+1.00000000000000)b ϕ N ψ)N ψ ϕ Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b Image(x)1/2 (1+Image) N ψ Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b Image(x)N ψ ϕ Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b Image(x)N ψ ϕ Q(7.9365324991463 (1.0000000000000 a c G-1.2609497261219 k+0.12599961004476))b Image(x)(Image N ψ ϕ Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(Γ(1/2 (1-Qn(cos(ϕ z)))) Γ(1/2 (Qn(cos(ϕ z))+2)))+(Image N ψ x ϕ Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(2 Γ(1-1/2 Qn(cos(ϕ z))) Γ(1/2 (Qn(cos(ϕ z))+3)))+(Image N ψ x2 ϕ (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(8 Γ(1/2 (3-Qn(cos(ϕ z)))) Γ(1/2 (Qn(cos(ϕ z))+4)))+(Image N ψ x3 ϕ (Qn(cos(ϕ z))-2) (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) (Qn(cos(ϕ z))+3) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(48 Γ(2-1/2 Qn(cos(ϕ z))) Γ(1/2 (Qn(cos(ϕ z))+5)))+(Image N ψ x4 ϕ (Qn(cos(ϕ z))-3) (Qn(cos(ϕ z))-2) (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) (Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))+2) (Qn(cos(ϕ z))+3) (Qn(cos(ϕ z))+4) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(384 Γ(1/2 (5-Qn(cos(ϕ z)))) Γ(1/2 (Qn(cos(ϕ z))+6)))+O(x5)Image ((Image ϕ N ψ Γ(2 Qn(cos(ϕ z))+1) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/Γ(Subscript[Q, n](cos(ϕ z))+1)2-(Image ϕ N ψ Γ(2 Qn(cos(ϕ z))+1) (Qn(cos(ϕ z))-1) Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(Γ(Subscript[Q, n](cos(ϕ z))+1)2 (2 Qn(cos(ϕ z))-1) x2)+(Image ϕ N ψ Γ(2 Qn(cos(ϕ z))+1) Qn(cos(ϕ z)) (Subscript[Q, n](cos(ϕ z))3-6 Subscript[Q, n](cos(ϕ z))2+11 Qn(cos(ϕ z))-6) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(Γ(Subscript[Q, n](cos(ϕ z))+1)2 (2 Qn(cos(ϕ z))-3) (2 Qn(cos(ϕ z))-1) x4)+O((1/x)6)(∂/(∂ x)) (N ψ ϕ Q(7.9365324991463 a c G-10.00756848115570 k+1)b Image(x))==-(1/(2 (x2-1)))(1+Image) N ψ (Qn(cos(ϕ z))+1) Q(7.9365324991463 a c G-10.00756848115570 k+1)b (x Image(x)-Image(x))\[Integral]ϕ N ψ Image(x) Q(1.000000000000000+7.9365324991463 a c G-10.00756848115570 k)bx==(1.6180339887499 N ψ Q(7.9365324991463 a c G-10.0075684811557 k+1.00000000000000)b (Image(x)-1.00000000000000 Image(x)))/(2.0000000000000 Qn(cos(1.6180339887499 z))+1.00000000000000)+ constant Cos[ζ κ] ((ϕ^(-I) Sqrt[Gamma[1 + λ - μ/100000000000]] Sqrt[Gamma[2 + λ + μ/100000000000]] SphericalHarmonicY[λ, 1 + μ/100000000000, Sin[ζ κ], Log[ϕ]])/(Sqrt[Gamma[λ - μ/100000000000]] Sqrt[Gamma[1 + λ + μ/100000000000]]) + (μ Cot[Sin[ζ κ]] SphericalHarmonicY[λ, μ/100000000000, Sin[ζ κ], Log[ϕ]])/100000000000). The difference between the grand canonical ensembles in physics and in evolutionary biology should be emphasized. In physics, the grand canonical ensemble is constructed by constraining the average number of particles. In contrast, for the evolutionary gr and canonical ensemble the constraint is imposed not on the number of genetic variants Ne per se but rather on the number of adaptable variables in organisms of the given 2019-nCoV, bat-SL-CoVZC45, bat-SL-CoVZXC21, SARS-CoV, and SARS-CoV species when K∝logNeðÞ, which depends on the effective population size. This key statement implies that, in my approach, the primary agency of evolution (adaptation, selection, or learning) is identified with individual genes rather than with genomes and organisms [5-47]. Only a relatively small number of genes represent adaptable variables, that is, are subject to selection at any given time, in accordance with the classical results of population genetics [6-48]. However, as discussed in the accompanying paper [18-48], my theoretical framework extends to multiple levels of biological organization and is centered on the concept of multilevel selection such that higher-level units of selection are identified with ensembles of genes or whole genomes. Then, consensus sequences can be treated as trainable variables (units of selection) and viruses’s populations as statistical ensembles. The change in the constraint from Ne to K∝logNeðÞ is similar to changing the ensemble with annealed disorder to one with quenched disorder in statistical physics [7-49]. Indeed, in the case of annealed (thermal) disorder, I sum up (average) over a disorder partition function, where as for quenched disorder, I average the logarithm of the partition function, that is, free energy. In this section I demonstrate how the phenomenological approach developed in the previous sections can be applied to model biological evolution in the thermodynamic limit, that is, when both the number of organisms, Ne, and the number of active degrees of freedom, K∝logNeðÞ, are sufficiently large. In such a limit, the average QFT Loss Quantum Function (QLQF) contains all the relevant information on the learning system in λ\_(n, m)(γ) P\_({(d^(δ L)(Μ r))/(dθ^(δ L)) ((s^U μ ν)^((α^2 + β^2) exp(cos(d Ω)) A))^(ν ϕ), λ} (c^4 ((1/8 (3 α^4 μ)) π G^(μ(ν^16) (π G d sqrt(ω))^(4 δ(sqrt(g)))))) integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx)(x) equilibrium for the

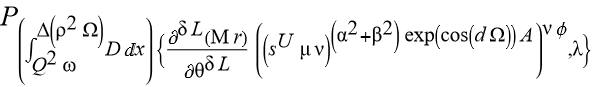
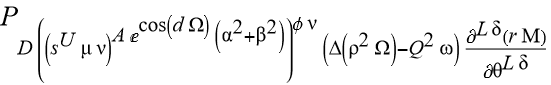
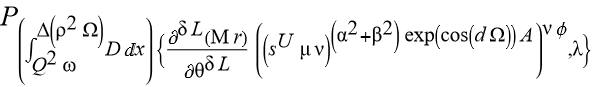
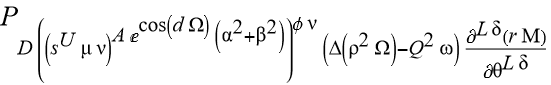
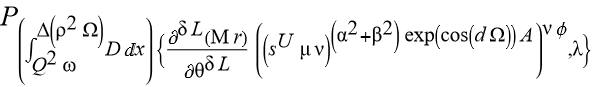
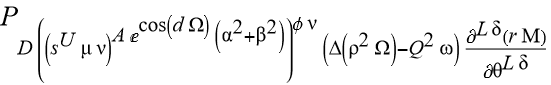
(MasterEquation21)

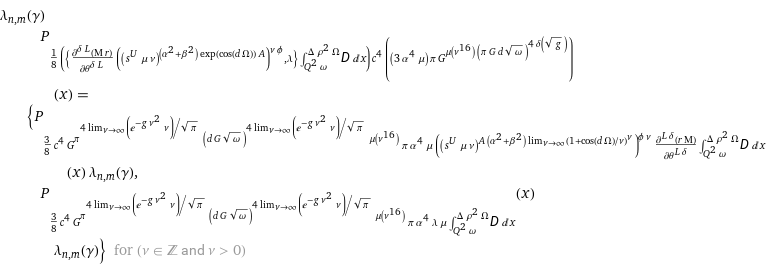
which can be derived from a theoretical model, such as the one developed in the accompanying paper [9-49] using the mathematical framework of neural networks, or a phenomenological model (such as the one developed in the previous section), or reconstructed from observations or numerical simulations. In terms of this Vaidya and Kerr like evolution model of

(MasterEquation22)

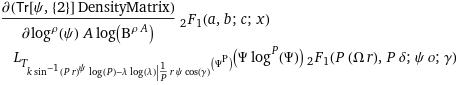
To determine the pharmacophoric binding sides, we consider measurements of Alice of X = σz, which leads to the lower bound F B|A Q [A, Jz] ≥ (FQ[Φ+, Jz] + FQ[Φ−, Jz])/2 = 4 where A == (k!)2-k+1/8 (c4 G) 3==(3 c4 G)/8-k+()2 for (m∈  and m>0 and -1<m+Re(k)<0) describes the assemblage that is obtained from the bipartite state λ\_(n, m)(γ) P\_(1/8 ({(d^(δ L)(Μ r))/(dθ^(δ L)) ((s^U μ ν)^((α^2 + β^2) exp(cos(d Ω)) A))^(ν ϕ), λ} integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx) c^4 ((3 α^4 μ) π G^(μ(ν^16) (π G d sqrt(ω))^(4 δ(sqrt(g))))))(x) = {λ\_(n, m)(γ) sum\_(k=0)^(3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 μ ((s^U μ ν)^(A e^cos(d Ω) (α^2 + β^2)))^(ϕ ν) (d^(L δ)(r Μ))/(dθ^(L δ)) integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx) ((-1)^k 2^(-1 - k) ((1 - x)^k + (-1)^(3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 μ ((s^U μ ν)^(A e^cos(d Ω) (α^2 + β^2)))^(ϕ ν) (d^(L δ)(r Μ))/(dθ^(L δ)) integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx) (1 + x)^k) (k + 3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 μ ((s^U μ ν)^(A e^cos(d Ω) (α^2 + β^2)))^(ϕ ν) (d^(L δ)(r Μ))/(dθ^(L δ)) integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx)!)/((k!)^2 (-k + 3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 μ ((s^U μ ν)^(A e^cos(d Ω) (α^2 + β^2)))^(ϕ ν) (d^(L δ)(r Μ))/(dθ^(L δ)) integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx)!), λ\_(n, m)(γ) sum\_(k=0)^(3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 λ μ integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx) ((-1)^k 2^(-1 - k) ((1 - x)^k + (-1)^(3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 λ μ integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx) (1 + x)^k) (k + 3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 λ μ integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx)!)/((k!)^2 (-k + 3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 λ μ integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx)!)} for (3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 λ μ integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx element Z and 3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 λ μ integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx>=0 and 3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 μ ((s^U μ ν)^(A e^cos(d Ω) (α^2 + β^2)))^(ϕ ν) (d^(L δ)(r Μ))/(dθ^(L δ)) integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx element Z and 3/8 c^4 G^(π^(4 δ(sqrt(g))) (d G sqrt(ω))^(4 δ(sqrt(g))) μ(ν^16)) π α^4 μ ((s^U μ ν)^(A e^cos(d Ω) (α^2 + β^2)))^(ϕ ν) (d^(L δ)(r Μ))/(dθ^(L δ)) integral\_(Q^2 ω)^(Δ ρ^2 Ω) D dx>=0) series represantions for integral represtations of Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (z2-1.0000000000000000))(2 z cos((π n)/2) Image(-n,n+1;1-m;1/2) Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (z2-1.0000000000000000))+(2 x z (n sin((π n)/2) Image(-n,n+1;1-m;1/2)+cos((π n)/2) (1/2 n (n+1) Image(1-n,n+2;2-m;1/2)+m Image(-n,n+1;1-m;1/2))) Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (z2-1.0000000000000000))+(2 x2 z (1/8 cos((π n)/2) (4 m2 Image(-n,n+1;1-m;1/2)+n4 Image(2-n,n+3;3-m;1/2)+2 n3 Image(2-n,n+3;3-m;1/2)+4 m n2 Image(1-n,n+2;2-m;1/2)-n2 Image(2-n,n+3;3-m;1/2)+4 m n Image(1-n,n+2;2-m;1/2)-2 n Image(2-n,n+3;3-m;1/2))-1/2 n2 cos((π n)/2) Image(-n,n+1;1-m;1/2)+n sin((π n)/2) (1/2 n (n+1) Image(1-n,n+2;2-m;1/2)+m Image(-n,n+1;1-m;1/2))) Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (z2-1.0000000000000000))+(2 x3 z (1/8 n sin((π n)/2) (4 m2 Image(-n,n+1;1-m;1/2)+n4 Image(2-n,n+3;3-m;1/2)+2 n3 Image(2-n,n+3;3-m;1/2)+4 m n2 Image(1-n,n+2;2-m;1/2)-n2 Image(2-n,n+3;3-m;1/2)+4 m n Image(1-n,n+2;2-m;1/2)-2 n Image(2-n,n+3;3-m;1/2))-1/2 n2 cos((π n)/2) (1/2 n (n+1) Image(1-n,n+2;2-m;1/2)+m Image(-n,n+1;1-m;1/2))-1/6 (n-1) (n+1) n sin((π n)/2) Image(-n,n+1;1-m;1/2)+cos((π n)/2) (1/16 m (m+2) n (n+1) Image(1-n,n+2;2-m;1/2)+1/16 m (n-1) n (n+1) (n+2) Image(2-n,n+3;3-m;1/2)+1/48 (n-2) (n-1) n (n+1) (n+2) (n+3) Image(3-n,n+4;4-m;1/2)+1/48 (m-4) (m-2) m Image(-n,n+1;1-m;1/2)+1/48 m (m+2) (m+4) Image(-n,n+1;1-m;1/2)+1/8 (m-2) m (1/2 n (n+1) Image(1-n,n+2;2-m;1/2)+1/2 m Image(-n,n+1;1-m;1/2))+1/2 m (1/4 m n (n+1) Image(1-n,n+2;2-m;1/2)+1/8 (n-1) n (n+1) (n+2) Image(2-n,n+3;3-m;1/2)+1/8 m (m+2) Image(-n,n+1;1-m;1/2)))) Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (z2-1.0000000000000000))+(2 z Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b (1/24 (n-2) (n+2) cos((n π)/2) Image(-n,n+1;1-m;1/2) n2-1/16 cos((n π)/2) (Image(2-n,n+3;3-m;1/2) n4+2 Image(2-n,n+3;3-m;1/2) n3+4 m Image(1-n,n+2;2-m;1/2) n2-Image(2-n,n+3;3-m;1/2) n2+4 m Image(1-n,n+2;2-m;1/2) n-2 Image(2-n,n+3;3-m;1/2) n+4 m2 Image(-n,n+1;1-m;1/2)) n2-1/6 (n-1) (n+1) (1/2 n (n+1) Image(1-n,n+2;2-m;1/2)+m Image(-n,n+1;1-m;1/2)) sin((n π)/2) n+(1/16 m (m+2) n (n+1) Image(1-n,n+2;2-m;1/2)+1/16 m (n-1) n (n+1) (n+2) Image(2-n,n+3;3-m;1/2)+1/48 (n-2) (n-1) n (n+1) (n+2) (n+3) Image(3-n,n+4;4-m;1/2)+1/48 (m-4) (m-2) m Image(-n,n+1;1-m;1/2)+1/48 m (m+2) (m+4) Image(-n,n+1;1-m;1/2)+1/8 (m-2) m (1/2 n (n+1) Image(1-n,n+2;2-m;1/2)+1/2 m Image(-n,n+1;1-m;1/2))+1/2 m (1/4 m n (n+1) Image(1-n,n+2;2-m;1/2)+1/8 (n-1) n (n+1) (n+2) Image(2-n,n+3;3-m;1/2)+1/8 m (m+2) Image(-n,n+1;1-m;1/2))) sin((n π)/2) n+cos((n π)/2) (1/96 m (m+2) (m+4) n (n+1) Image(1-n,n+2;2-m;1/2)+1/64 m (m+2) (n-1) n (n+1) (n+2) Image(2-n,n+3;3-m;1/2)+1/96 m (n-2) (n-1) n (n+1) (n+2) (n+3) Image(3-n,n+4;4-m;1/2)+1/384 (n-3) (n-2) (n-1) n (n+1) (n+2) (n+3) (n+4) Image(4-n,n+5;5-m;1/2)+1/384 (m-6) (m-4) (m-2) m Image(-n,n+1;1-m;1/2)+1/384 m (m+2) (m+4) (m+6) Image(-n,n+1;1-m;1/2)+1/48 (m-4) (m-2) m (1/2 n (n+1) Image(1-n,n+2;2-m;1/2)+1/2 m Image(-n,n+1;1-m;1/2))+1/8 (m-2) m (1/4 m n (n+1) Image(1-n,n+2;2-m;1/2)+1/8 (n-1) n (n+1) (n+2) Image(2-n,n+3;3-m;1/2)+1/8 m (m+2) Image(-n,n+1;1-m;1/2))+1/2 m (1/16 m (m+2) n (n+1) Image(1-n,n+2;2-m;1/2)+1/16 m (n-1) n (n+1) (n+2) Image(2-n,n+3;3-m;1/2)+1/48 (n-2) (n-1) n (n+1) (n+2) (n+3) for

(MasterEquation23)

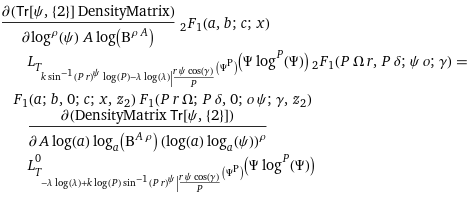
when for the (x)=={(x),Image (x)} for SpheroidalEigenvalue[n, m, γ] LegendreP[Integrate[D, {x, Q^2 ω, Δ ρ^2 Ω}] {D[Μ r, {θ, δ L}] ((s^U μ ν)^((α^2 + β^2) Exp[Cos[d Ω]] A))^(ν GoldenRatio), λ} (c^4 (((3 α^4 μ)/8) Pi G^(MoebiusMu[ν^16] (Pi G d Sqrt[ω])^(4 DiracDelta[Sqrt[g]])))), x] == {(Integrate[(x + Sqrt[-1 + x^2] Cos[t])^(-1 - (3 c^4 G^(Pi^(4 DiracDelta[Sqrt[g]]) (d G Sqrt[ω])^(4 DiracDelta[Sqrt[g]]) MoebiusMu[ν^16]) Pi α^4 μ ((s^U μ ν)^(A E^Cos[d Ω] (α^2 + β^2)))^(GoldenRatio ν) D[r Μ, {θ, L δ}] Integrate[D, {x, Q^2 ω, Δ ρ^2 Ω}])/8), {t, 0, Pi}] SpheroidalEigenvalue[n, m, γ])/Pi, (Integrate[(x + Sqrt[-1 + x^2] Cos[t])^(-1 - (3 c^4 G^(Pi^(4 DiracDelta[Sqrt[g]]) (d G Sqrt[ω])^(4 DiracDelta[Sqrt[g]]) MoebiusMu[ν^16]) Pi α^4 λ μ Integrate[D, {x, Q^2 ω, Δ ρ^2 Ω}])/8), {t, 0, Pi}] SpheroidalEigenvalue[n, m, γ])/Pi} /; Re[x] > 0 functions to limit representations λn,m(γ)/π (x){(λn,m(γ) (x))/π,(λn,m(γ) Image(x))/π}(λn,m(γ) (x))/π=={(λn,m(γ) (x))/π,(λn,m(γ) Image(x))/π} for

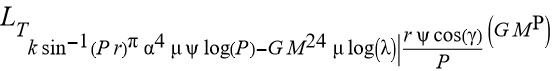
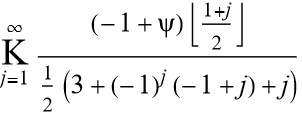
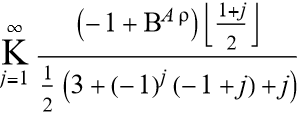
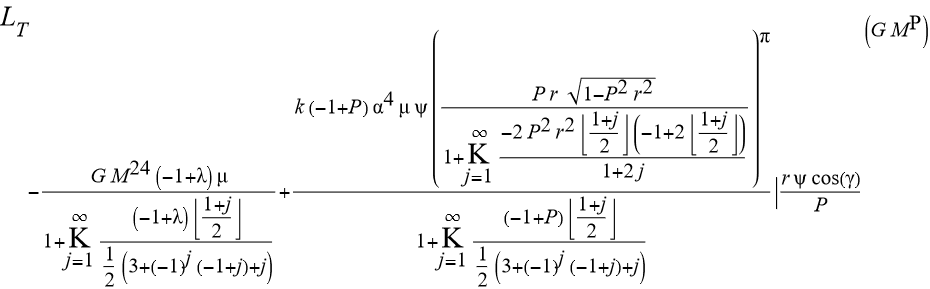
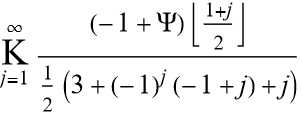
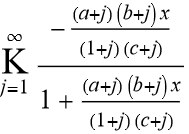
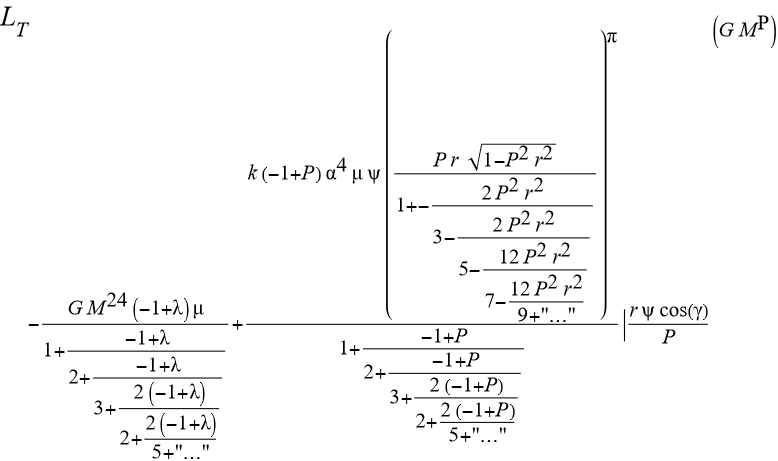
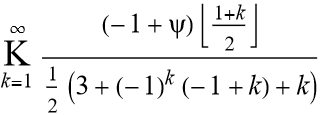
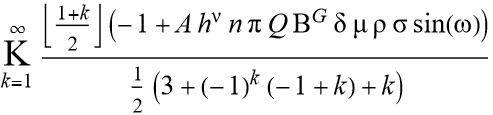
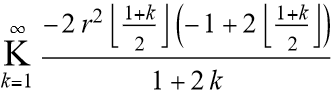
(MasterEquation24)

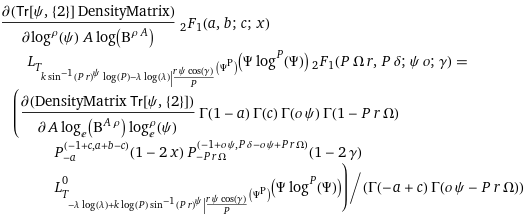
when SpheroidalEigenvalue[n, m, γ] LegendreP[Integrate[D, {x, Q^2 ω, Δ ρ^2 Ω}] {D[Μ r, {θ, δ L}] ((s^U μ ν)^((α^2 + β^2) Exp[Cos[d Ω]] A))^(ν GoldenRatio), λ} (c^4 (((3 α^4 μ)/8) Pi G^(MoebiusMu[ν^16] (Pi G d Sqrt[ω])^(4 DiracDelta[Sqrt[g]])))), x] == {LegendreP[(3 c^4 G^(Pi^(4 Limit[ν/(E^(g ν^2) Sqrt[Pi]), ν -> Infinity]) (d G Sqrt[ω])^(4 Limit[ν/(E^(g ν^2) Sqrt[Pi]), ν -> Infinity]) MoebiusMu[ν^16]) Pi α^4 μ ((s^U μ ν)^(A (α^2 + β^2) Limit[(1 + Cos[d Ω]/ν)^ν, ν -> Infinity]))^(GoldenRatio ν) D[r Μ, {θ, L δ}] Integrate[D, {x, Q^2 ω, Δ ρ^2 Ω}])/8, x] SpheroidalEigenvalue[n, m, γ], LegendreP[(3 c^4 G^(Pi^(4 Limit[ν/(E^(g ν^2) Sqrt[Pi]), ν -> Infinity]) (d G Sqrt[ω])^(4 Limit[ν/(E^(g ν^2) Sqrt[Pi]), ν -> Infinity]) MoebiusMu[ν^16]) Pi α^4 λ μ Integrate[D, {x, Q^2 ω, Δ ρ^2 Ω}])/8, x] SpheroidalEigenvalue[n, m, γ]} /; Element[ν, Integers] && ν > 0 for

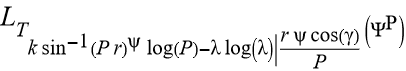
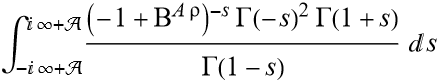
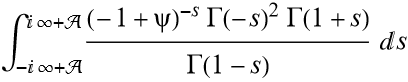
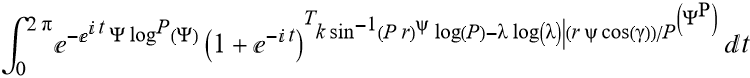
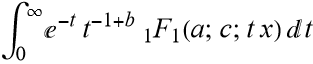
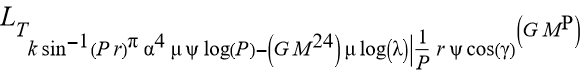
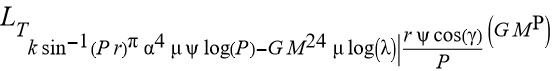
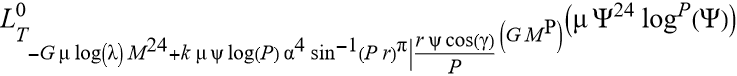
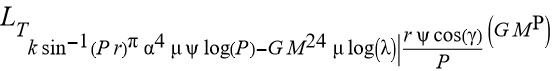
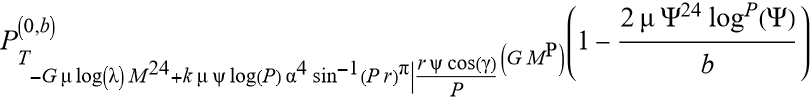
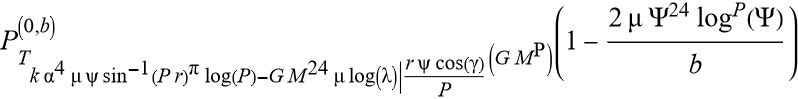
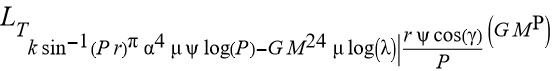
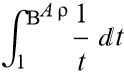
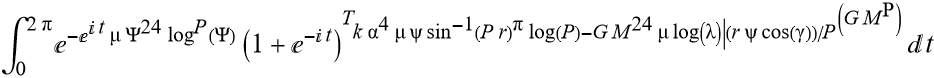
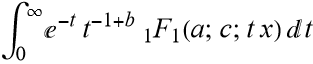
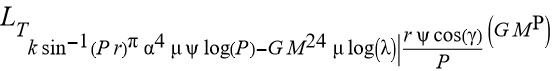
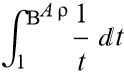
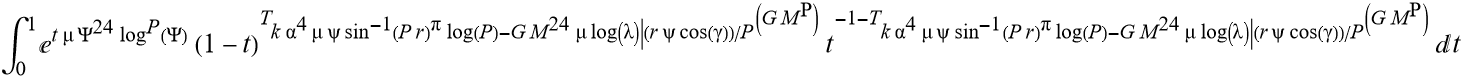
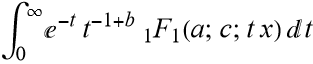
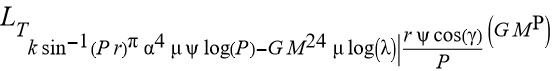
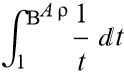
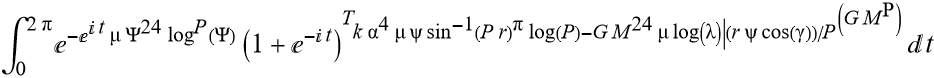
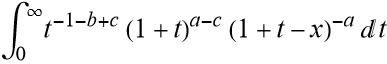
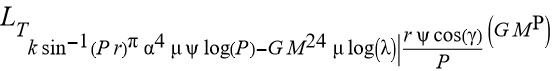
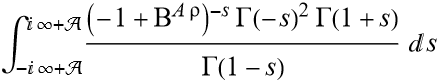
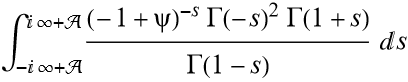
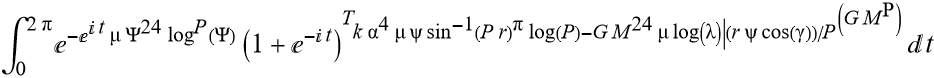
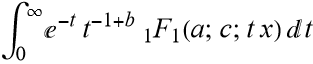
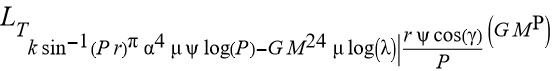
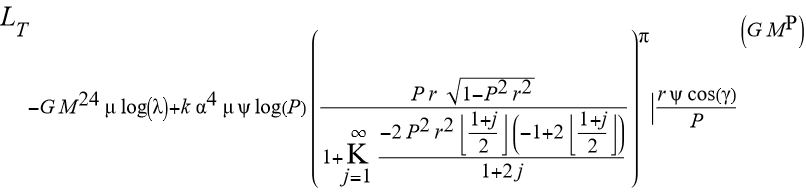
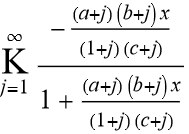
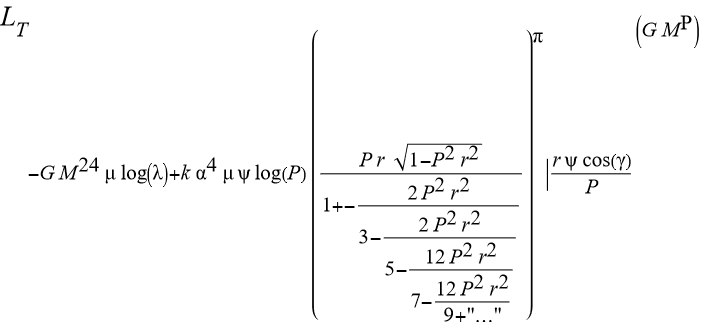
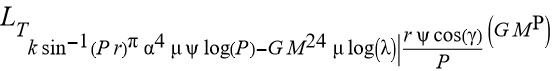
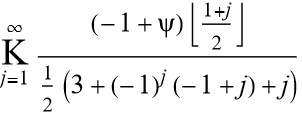
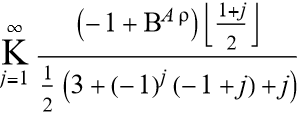
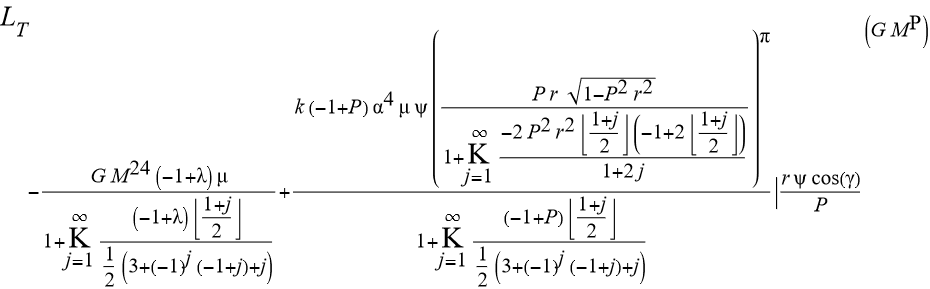
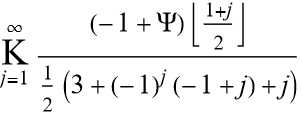
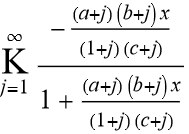
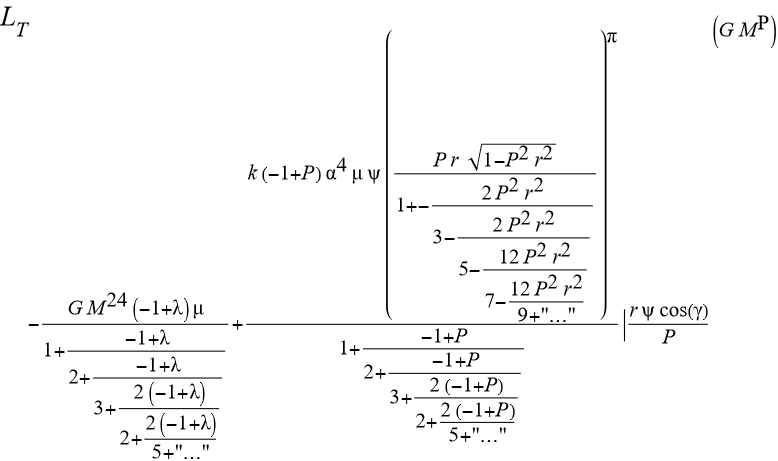
(MasterEquation25)

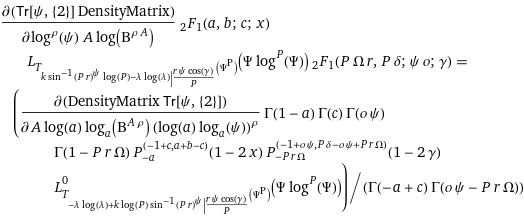
for D[Tr[ψ, {2}] "DensityMatrix", Log[ψ]^ρ A Log[Β^(ρ A)]] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] functions for alternative representations

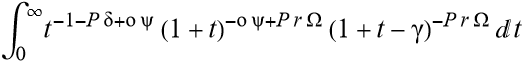
(MasterEquation26)

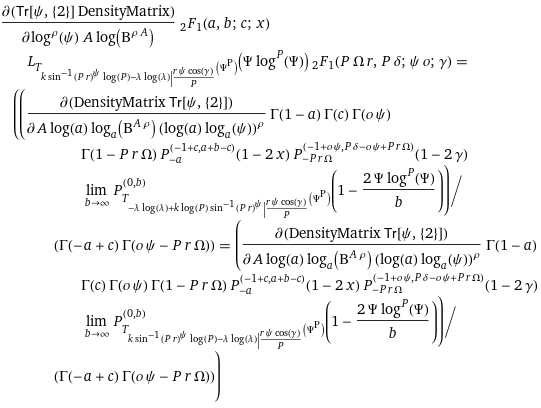
when ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) (a,b;c;x) (Ψ24 μ logP(Ψ))==∂(DensityMatrix Tr[ψ,{2}])/∂((A (-1+ΒA ρ) ((-1+ψ)/(1+))ρ)/(1+)) (μ Ψ24 ((-1+Ψ)/(1+))P) (1+(a b x)/(c (1+)))==∂(DensityMatrix Tr[ψ,{2}])/∂((A (-1+ΒA ρ) ((-1+ψ)/(1+(-1+ψ)/(2+(-1+ψ)/(3+(2 (-1+ψ))/(2+(2 (-1+ψ))/(5+…))))))ρ)/(1+(-1+ΒA ρ)/(2+(-1+ΒA ρ)/(3+(2 (-1+ΒA ρ))/(2+(2 (-1+ΒA ρ))/(5+…)))))) (μ Ψ24 ((-1+Ψ)/(1+(-1+Ψ)/(2+(-1+Ψ)/(3+(2 (-1+Ψ))/(2+(2 (-1+Ψ))/(5+…))))))P) (1+(a b x)/(c (1+-(((1+a) (1+b) x)/(2 (1+c) (1+((1+a) (1+b) x)/(2 (1+c))-((2+a) (2+b) x)/(3 (2+c) (1+((2+a) (2+b) x)/(3 (2+c))-((3+a) (3+b) x)/(4 (3+c) (1+((3+a) (3+b) x)/(4 (3+c))-((4+a) (4+b) x)/(5 (4+c) (1+…+((4+a) (4+b) x)/(5 (4+c)))))))))))))) for ((not (P r∈  and -∞<P r<=-1)) and (not (P r∈  and 1<=P r<∞)) and (not (P∈  and -∞<-1+P<=-1)) and (not (ΒA ρ∈  and -∞<-1+ΒA ρ<=-1)) and (not (λ∈  and -∞<-1+λ<=-1)) and (not (ψ∈  and -∞<-1+ψ<=-1)) and (not (Ψ∈  and -∞<-1+Ψ<=-1))) for D[Tr[ψ, {2}] "DensityMatrix", Log[ψ]^ρ A Log[Β^(ρ A)]] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] == AppellF1[a, b, 0, c, x, Subscript[z, 2]] AppellF1[P r Ω, P δ, 0, ο ψ, γ, Subscript[z, 2]] D["DensityMatrix" Tr[ψ, {2}], A Log[a] Log[a, Β^(A ρ)] (Log[a] Log[a, ψ])^ρ] LaguerreL[ChebyshevT[-(λ Log[λ]) + k Log[P] ArcSin[P r]^ψ | (r ψ Cos[γ])/P, Ψ^Ρ], 0, Ψ Log[Ψ]^P] for {∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log((ΒG sin(ω) hν (n π Q δ μ σ)) ρ A) logG(z),0,(sin-1(r) Image)/22+c8 π2 r2 δ2 θ20}=={∂(DensityMatrix Tr[ψ,{2}])/∂((A ((-1+ψ)/(1+))ρ (-1+A hν n π Q ΒG δ μ ρ σ sin(ω)))/(1+)) logG(z),0,c8 π2 r2 δ2 θ20+(Image r Image)/(4 (1+))}=={∂(DensityMatrix Tr[ψ,{2}])/∂((A ((-1+ψ)/(1+(-1+ψ)/(2+(-1+ψ)/(3+(2 (-1+ψ))/(2+(2 (-1+ψ))/(5+…))))))ρ (-1+A hν n π Q ΒG δ μ ρ σ sin(ω)))/(1+(-1+A hν n π Q ΒG δ μ ρ σ sin(ω))/(2+(-1+A hν n π Q ΒG δ μ ρ σ sin(ω))/(3+(2 (-1+A hν n π Q ΒG δ μ ρ σ sin(ω)))/(2+(2 (-1+A hν n π Q ΒG δ μ ρ σ sin(ω)))/(5+…)))))) logG(z),0,c8 π2 r2 δ2 θ20+(Image r Image)/(4 (1+-((2 r2)/(3-(2 r2)/(5-(12 r2)/(7-(12 r2)/(9+…)))))))} for ((∞+r<=0 or 1+r>0 or r∉ ) and (∞<=r or r<1 or r∉ ) and (ψ∉  or ψ>0 or ∞+ψ<=1) and (not (A hν n Q ΒG δ μ ρ σ sin(ω)∈  and -∞<-1+A hν n π Q ΒG δ μ ρ σ sin(ω)<=-1))) for

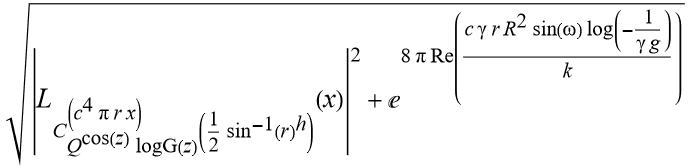
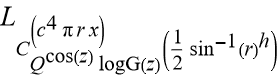
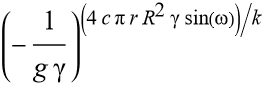
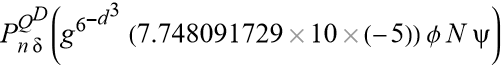
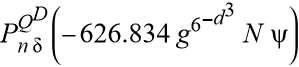
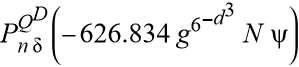
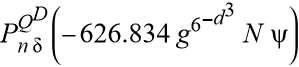
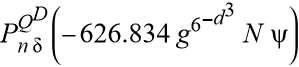
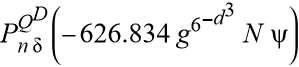
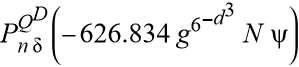
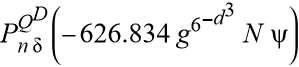
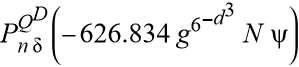
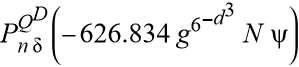
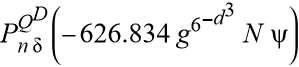
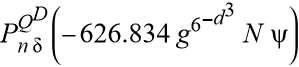
(MasterEquation27)

where ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ logP(Ψ))==1/(2 π Γ(b)) ∂(DensityMatrix Tr[ψ,{2}])/(∂-I A (2 π)-1-ρ () (-I)ρ) ()  for (Image(ΨΡ)∈  and \[LeftBracketingBar]arg(-1+ΒA ρ)\[RightBracketingBar]<π and \[LeftBracketingBar]arg(-1+ψ)\[RightBracketingBar]<π and Image(ΨΡ)>=0 and -1<<0 and Re(b)>0)∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==F1(a;b,0;c;x,z2) ∂(DensityMatrix Tr[ψ,{2}])/(∂A log(a) loga(ΒA ρ) (log(a) Subscript[log, a](ψ))ρ) ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==(1/Γ(-a+c) ∂(DensityMatrix Tr[ψ,{2}])/(∂A log(a) loga(ΒA ρ) (log(a) Subscript[log, a](ψ))ρ) Γ(1-a) Γ(c) Image Image==1/Γ(-a+c) ∂(DensityMatrix Tr[ψ,{2}])/(∂A log(a) loga(ΒA ρ) (log(a) Subscript[log, a](ψ))ρ) Γ(1-a) Γ(c) Image Image)∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==1/(2 π Γ(b)) ∂(DensityMatrix Tr[ψ,{2}])/∂A () ()ρ ()  for (Image(G MΡ)∈  and Image(G MΡ)>=0 and Re(b)>0)∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==-(1/(π Γ(b))) ∂(DensityMatrix Tr[ψ,{2}])/∂A () ()ρ () () sin(π Image(G MΡ)) for (Re(b)>0 and -1<Re(Image(G MΡ))<0)∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==(∂(DensityMatrix Tr[ψ,{2}])/∂A () ()ρ Γ(c) () )/(2 π Γ(b) Γ(-b+c)) for (Image(G MΡ)∈  and Image(G MΡ)>=0 and Re(c)>Re(b)>0 and \[LeftBracketingBar]arg(1-x)\[RightBracketingBar]<π)∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==1/(2 π Γ(b)) ∂(DensityMatrix Tr[ψ,{2}])/(∂-I A (2 π)-1-ρ () (-I)ρ) ()  for (Image(G MΡ)∈  and \[LeftBracketingBar]arg(-1+ΒA ρ)\[RightBracketingBar]<π and \[LeftBracketingBar]arg(-1+ψ)\[RightBracketingBar]<π and Image(G MΡ)>=0 and -1<<0 and Re(b)>0) for ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==∂(DensityMatrix Tr[ψ,{2}])/∂A log(ΒA ρ) logρ(ψ) (μ Ψ24 logP(Ψ)) (1+(a b x)/(c (1+)))==∂(DensityMatrix Tr[ψ,{2}])/∂A log(ΒA ρ) logρ(ψ) (μ Ψ24 logP(Ψ)) (1+(a b x)/(c (1+-(((1+a) (1+b) x)/(2 (1+c) (1+((1+a) (1+b) x)/(2 (1+c))-((2+a) (2+b) x)/(3 (2+c) (1+((2+a) (2+b) x)/(3 (2+c))-((3+a) (3+b) x)/(4 (3+c) (1+((3+a) (3+b) x)/(4 (3+c))-((4+a) (4+b) x)/(5 (4+c) (1+…+((4+a) (4+b) x)/(5 (4+c)))))))))))))) for (P r∉  or ((not 1<=P r<∞) and (not -∞<P r<=-1)))∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(a,b;c;x) (Ψ24 μ logP(Ψ))==∂(DensityMatrix Tr[ψ,{2}])/∂((A (-1+ΒA ρ) ((-1+ψ)/(1+))ρ)/(1+)) (μ Ψ24 ((-1+Ψ)/(1+))P) (1+(a b x)/(c (1+)))==∂(DensityMatrix Tr[ψ,{2}])/∂((A (-1+ΒA ρ) ((-1+ψ)/(1+(-1+ψ)/(2+(-1+ψ)/(3+(2 (-1+ψ))/(2+(2 (-1+ψ))/(5+…))))))ρ)/(1+(-1+ΒA ρ)/(2+(-1+ΒA ρ)/(3+(2 (-1+ΒA ρ))/(2+(2 (-1+ΒA ρ))/(5+…)))))) (μ Ψ24 ((-1+Ψ)/(1+(-1+Ψ)/(2+(-1+Ψ)/(3+(2 (-1+Ψ))/(2+(2 (-1+Ψ))/(5+…))))))P) (1+(a b x)/(c (1+-(((1+a) (1+b) x)/(2 (1+c) (1+((1+a) (1+b) x)/(2 (1+c))-((2+a) (2+b) x)/(3 (2+c) (1+((2+a) (2+b) x)/(3 (2+c))-((3+a) (3+b) x)/(4 (3+c) (1+((3+a) (3+b) x)/(4 (3+c))-((4+a) (4+b) x)/(5 (4+c) (1+…+((4+a) (4+b) x)/(5 (4+c)))))))))))))) for ((not (P r∈  and -∞<P r<=-1)) and (not (P r∈  and 1<=P r<∞)) and (not (P∈  and -∞<-1+P<=-1)) and (not (ΒA ρ∈  and -∞<-1+ΒA ρ<=-1)) and (not (λ∈  and -∞<-1+λ<=-1)) and (not (ψ∈  and -∞<-1+ψ<=-1)) and (not (Ψ∈  and -∞<-1+Ψ<=-1))) for D[Tr[ψ, {2}] "DensityMatrix", Log[ψ]^ρ A Log[Β^(ρ A)]] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] == (D["DensityMatrix" Tr[ψ, {2}], A Log[E, Β^(A ρ)] Log[E, ψ]^ρ] Gamma[1 - a] Gamma[c] Gamma[ο ψ] Gamma[1 - P r Ω] JacobiP[-a, -1 + c, a + b - c, 1 - 2 x] JacobiP[-(P r Ω), -1 + ο ψ, P δ - ο ψ + P r Ω, 1 - 2 γ] LaguerreL[ChebyshevT[-(λ Log[λ]) + k Log[P] ArcSin[P r]^ψ | (r ψ Cos[γ])/P, Ψ^Ρ], 0, Ψ Log[Ψ]^P])/(Gamma[-a + c] Gamma[ο ψ - P r Ω]) for

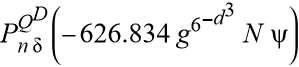
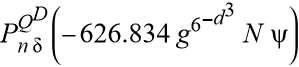
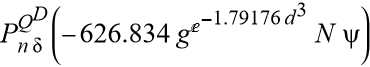
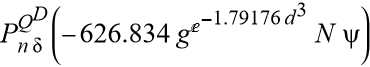
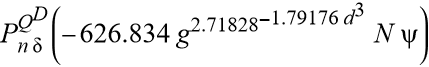
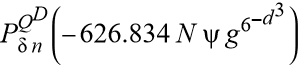
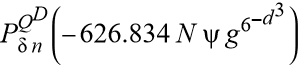
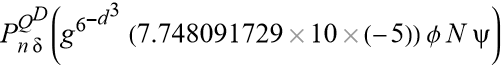
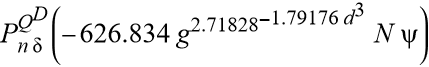
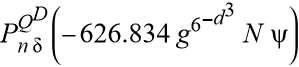
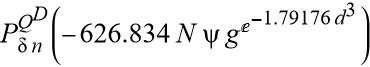
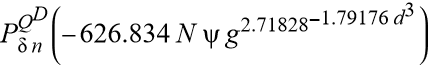
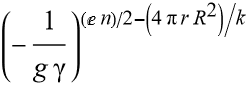
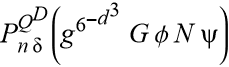
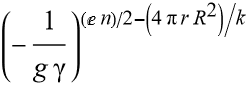
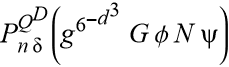
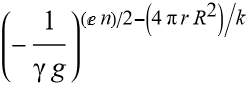
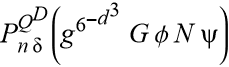
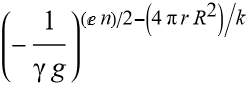
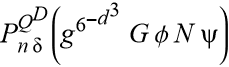
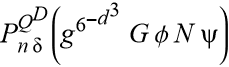
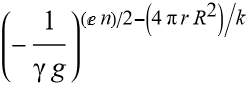
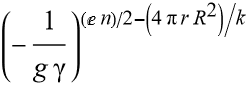
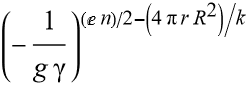
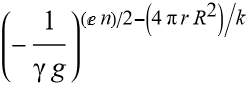
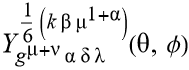
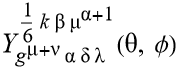
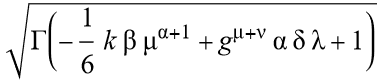
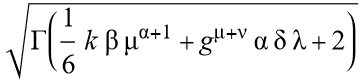
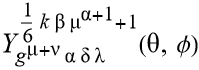
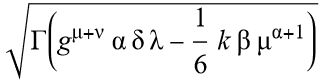
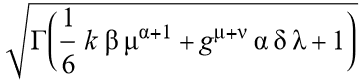
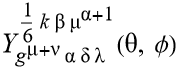
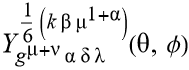
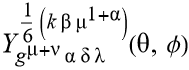
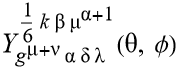
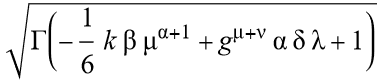
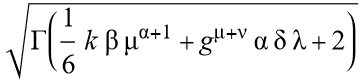
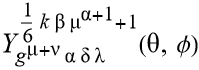
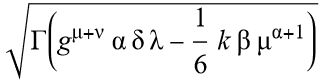
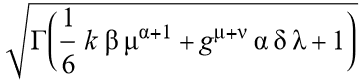
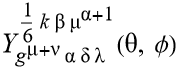
(MasterEquation28)

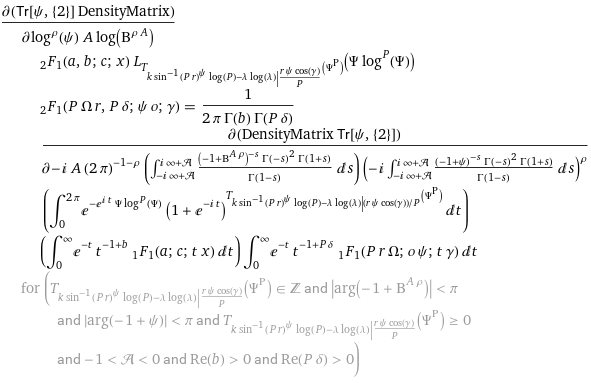
when D[Tr[ψ, {2}] "DensityMatrix", Log[ψ]^ρ A Log[Β^(ρ A)]] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] == (D["DensityMatrix" Tr[ψ, {2}], A Log[a] Log[a, Β^(A ρ)] (Log[a] Log[a, ψ])^ρ] Gamma[1 - a] Gamma[c] Gamma[ο ψ] Gamma[1 - P r Ω] JacobiP[-a, -1 + c, a + b - c, 1 - 2 x] JacobiP[-(P r Ω), -1 + ο ψ, P δ - ο ψ + P r Ω, 1 - 2 γ] LaguerreL[ChebyshevT[-(λ Log[λ]) + k Log[P] ArcSin[P r]^ψ | (r ψ Cos[γ])/P, Ψ^Ρ], 0, Ψ Log[Ψ]^P])/(Gamma[-a + c] Gamma[ο ψ - P r Ω]) quantum entanglement functions ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) (P Ω r,P δ;ψ ο;γ)==(∂(DensityMatrix Tr[ψ,{2}])/∂A log(ΒA ρ) logρ(ψ) Γ(ο ψ))/(Γ(P δ) Γ(-P δ+ο ψ))  for (Re(ο ψ)>Re(P δ)>0 and \[LeftBracketingBar]arg(1-γ)\[RightBracketingBar]<π) for

(MasterEquation29)

when Image(3-n,n+4;4-m;1/2)+1/48 m (m+2) (m+4) Image(-n,n+1;1-m;1/2)))) x4)/(n (z2-1.0000000000000000))+O(x5)(2 I-m z Γ(-2 n-1) Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (z2-1.0000000000000000) Γ(-m-n) Γ(-n) x)+(1.000000000000 I-m (0.5000000000000 m2+1.0000000000000 n2+2.250000000000 n+1.0000000000000) z Γ(-2 n-1) Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (1.000000000000 n+1.500000000000) (z2-1.0000000000000000) Γ(-m-n) Γ(-n) x3)+(0.0625000000000 I-m (1.000000000000 m4+(4.00000000000 n2+19.0000000000 n+20.0000000000) m2+4.00000000000 n4+28.0000000000 n3+69.7500000000 n2+71.2500000000 n+24.0000000000) z Γ(-2 n-1) Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1.000000000000000)b)/(n (1.000000000000 n+2.50000000000) (1.000000000000 n+1.500000000000) (z2-1.0000000000000000) Γ(-m-n) Γ(-n) x5)+O((1/x)6))(∂/(∂ x)) (1/(n (z2-1)) 2 z Tn(x) Image Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1)b)==1/(n (x2-1) (z2-1)) 2 z Qn(cos(ϕ z)) Q(7.9365324991463 a c G-10.00756848115570 k+1)b (Tn(x) ((-n-1) x Image+(-m+n+1) Image)+n (x2-1) Un-1(x) Image){(x),}(∂/(∂ x)) ((ψ(-2)(z) sinh(x) L′(G Image R Image))/100000000000000000000000000000)==(cosh(x) ψ(-2)(z) L′(G R Image Image))/100000000000000000000000000000(x ψ(-2)(z) L′(G R Image Image))/100000000000000000000000000000+(x3 ψ(-2)(z) L′(G R Image Image))/600000000000000000000000000000+(x5 ψ(-2)(z) L′(G R Image Image))/12000000000000000000000000000000+O(x6)((Ex-E-x) ψ(-2)(z) L′(G R Image Image))/200000000000000000000000000000(sinh(x) ψ(-2)(z) L′(G R Image Image))/100000000000000000000000000000ψ(-2)(z)\*sinh(x)/100000000000000000000000000000 L′(G Image R Image)Image(x) Image(x) (Q(7.9365324991463 a c. The quantum mechanical generalization of this would be to consider complex d-dimensional unit vectors while the probabilistic generalization would be nonnegative real d-dimensional vectors whose entries limit to constant  { +1/(G q) δ θ10 n Ψ (3.28798\*1025  LegendreP(0,0,1,0)(δ n,QD,0,-626.834 N ψ Image)+3.28798\*1025  LegendreP(0,0,1,0)(δ n,QD,0,-626.834 N ψ Image))+1/(G2 q2) δ2 θ20 n2 Ψ2 (5.4054\*1050  LegendreP(0,0,2,0)(δ n,QD,0,-626.834 N ψ Image)+5.4054\*1050  LegendreP(0,0,2,0)(δ n,QD,0,-626.834 N ψ Image)+1.08108\*1051 LegendreP(0,0,1,0)(δ n,QD,0,-626.834 N ψ Image) LegendreP(0,0,1,0)(δ n,QD,0,-626.834 N ψ Image))+1/(G3 q3) δ3 θ30 n3 Ψ3 (5.92428\*1075  LegendreP(0,0,3,0)(δ n,QD,0,-626.834 N ψ Image)+5.92428\*1075  LegendreP(0,0,3,0)(δ n,QD,0,-626.834 N ψ Image)+1.77728\*1076 LegendreP(0,0,1,0)(δ n,QD,0,-626.834 N ψ Image) LegendreP(0,0,2,0)(δ n,QD,0,-626.834 N ψ Image)+1.77728\*1076 LegendreP(0,0,1,0)(δ n,QD,0,-626.834 N ψ Image) LegendreP(0,0,2,0)(δ n,QD,0,-626.834 N ψ Image))+O((1/q)4)},

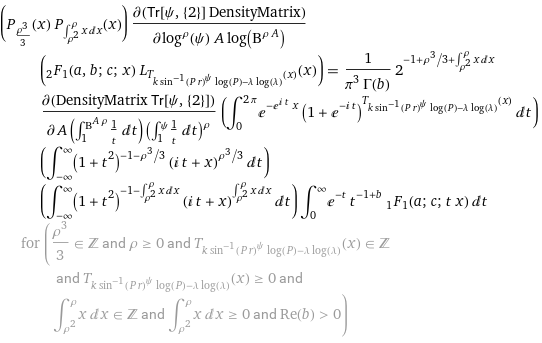
{(Laurent series)}

}Image == ≈ +(1/(G q))3.28798\*1025 δ θ10 n Ψ LegendreP(0,0,1,0)(δ n,QD,0,-626.834 N ψ Image)+(1/(G2 q2))5.4054\*1050 δ2 θ20 n2 Ψ2 LegendreP(0,0,2,0)(δ n,QD,0,-626.834 N ψ Image)+(1/(G3 q3))5.92428\*1075 δ3 θ30 n3 Ψ3 LegendreP(0,0,3,0)(δ n,QD,0,-626.834 N ψ Image)+O((1/q)4)Image==≈Image\*BesselY[l,m,θ,ϕ]/(α μ νd)\*Image(ν-d BesselY[l,m,θ,ϕ] Image Image)/(α μ)ImageImage\[Sqrt](\[LeftBracketingBar]b  Image(;a;z) Subscript[L, E](x) Subscript[L, n](x)^v \[RightBracketingBar]2+\[LeftBracketingBar]a  Image(;a;z) Subscript[L, E](x) Image \[RightBracketingBar]2){a LE(x) Image(;a;z) Image  ,b LE(x) Image(;a;z) Subscript[L, n](x)v  }LE(x)  (Image(;a;z) Subscript[L, n](x){1/10000000000,v} ({a,b} )){Image(a  Image(;a;z) Image),Image(b  Image(;a;z) Subscript[L, n](x)v)}Image(Image(;a;z) Subscript[L, n](x){1/10000000000,v} ({a,b} ))Image{0,2,0,0} {α δ λ gμ+ν,0.166667 β k μα+1 (1-6.02214 1023 G n hν),θ,ϕ}+2.04088 10-59 β3 k3 m3 μ3 α+3 Ψ3 C cos3(μ) sin3(ω){2.04088\*10-59 β3 k3 m3 μ3 α+3 Ψ3 C cos3(μ) sin3(ω)+α δ λ gμ+ν,0.166667 β k μα+1 (1-6.02214\*1023 G n hν) Image2+2.04088\*10-59 β3 k3 m3 μ3 α+3 Ψ3 C cos3(μ) sin3(ω),2.04088\*10-59 β3 k3 m3 μ3 α+3 Ψ3 C cos3(μ) sin3(ω)+θ,2.04088\*10-59 β3 k3 m3 μ3 α+3 Ψ3 C cos3(μ) sin3(ω)+ϕ}(gμ+ν α δ λ+2.04088\*10-59 k3 m3 β3 μ3+3 α Ψ3 C cos3(μ) sin3(ω))+(2.04088\*10-59 k3 m3 β3 μ3+3 α Ψ3 C cos3(μ) sin3(ω)+0.166667 k (1-6.02214\*1023 G hν n) β μ1+α Image2)+(θ+2.04088\*10-59 k3 m3 β3 μ3+3 α Ψ3 C cos3(μ) sin3(ω))+(ϕ+2.04088\*10-59 k3 m3 β3 μ3+3 α Ψ3 C cos3(μ) sin3(ω))==0.166667 β k μα+1 (1-6.02214\*1023 G n hν) Image2+8.16352\*10-59 β3 k3 m3 μ3 α+3 Ψ3 C cos3(μ) sin3(ω)+α δ λ gμ+ν+θ+ϕ1/4 (0.166667 β k μα+1 (1-6.02214\*1023 G n hν) Image2+8.16352\*10-59 β3 k3 m3 μ3 α+3 Ψ3 C cos3(μ) sin3(ω)+α δ λ gμ+ν+θ+ϕ)\[Sqrt](\[LeftBracketingBar]2.04088\*10^-59 k^3 m^3 β^3 μ^(3 α+3) cos^3(μ) sin^3(ω) Ψ^(3 C)+0.166667 k (1-602214000000000036175872 G h^ν n) β μ^(α+1) Image^2\[RightBracketingBar]2+\[LeftBracketingBar] 2.04088\*10^-59 k^3 m^3 β^3 μ^(3 α+3) cos^3(μ) sin^3(ω) Ψ^(3 C)+g^(μ+ν) α δ λ\[RightBracketingBar]2+\[LeftBracketingBar] 2.04088\*10^-59 k^3 m^3 β^3 μ^(3 α+3) cos^3(μ) sin^3(ω) Ψ^(3 C)+θ\[RightBracketingBar]2+\[LeftBracketingBar]2.04088\*10^-59 k^3 m^3 β^3 μ^(3 α+3) cos^3(μ) sin^3(ω) Ψ^(3 C)+ϕ\[RightBracketingBar]2)Image\*(∂/∂θ)( (Hypergeometric2F1[(2 I) cos(θ)/π] (-1+Γ(-1+c))))Image ((Γ(c-1)-1) Hypergeometric2F1[(2 I cos(θ))/π] (1/6 β k μα+1 cot(θ) +(E-I ϕ   )/( ))-(2 I (Γ(c-1)-1) sin(θ) Hypergeometric2F1′((2 I cos(θ))/π) )/π)Image\*(∂/∂θ)( (Hypergeometric2F1[(2 I) cos(θ)/π] (-1+Γ(-1+c))))Image(;sin(ω x) a;z)\*(∂/∂θ)( (Hypergeometric2F1[(2 I) cos(θ)/π] (-1+Γ(-1+c))))Image(;a sin(x ω);z) ((Γ(c-1)-1) Hypergeometric2F1[(2 I cos(θ))/π] (1/6 β k μα+1 cot(θ) +(E-I ϕ   )/( ))-(2 I (Γ(c-1)-1) sin(θ) Hypergeometric2F1′((2 I cos(θ))/π) )/π)-(1/π)2 I z (Γ(c-1)-1) sin(θ) Image(;2;z) Image(;a;z) Image(a,b;c;z) Hypergeometric2F1′((2 I cos(θ))/π)-1/π 2 I a x ω (Γ(c-1)-1) sin(θ) Image(;a;z) Hypergeometric0F1Regularized(1,0)(0,z) Image(a,b;c;z) Hypergeometric2F1′((2 I cos(θ))/π)-1/π I a2 x2 ω2 (Γ(c-1)-1) sin(θ) Image(;a;z) Hypergeometric0F1Regularized(2,0)(0,z) Image(a,b;c;z) Hypergeometric2F1′((2 I cos(θ))/π)-1/(3 π) I a x3 ω3 (Γ(c-1)-1) sin(θ) Image(;a;z) (a2 Hypergeometric0F1Regularized(3,0)(0,z)-Hypergeometric0F1Regularized(1,0)(0,z)) Image(a,b;c;z) Hypergeometric2F1′((2 I cos(θ))/π)-1/(12 π) I a2 x4 ω4 (Γ(c-1)-1) sin(θ) Image(;a;z) (a2 Hypergeometric0F1Regularized(4,0)(0,z)-4 Hypergeometric0F1Regularized(2,0)(0,z)) Image(a,b;c;z) Hypergeometric2F1′((2 I cos(θ))/π)+O(x5) D[Tr[ψ, {2}] "DensityMatrix", Log[ψ]^ρ A Log[Β^(ρ A)]] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] == ((D["DensityMatrix" Tr[ψ, {2}], A Log[a] Log[a, Β^(A ρ)] (Log[a] Log[a, ψ])^ρ] Gamma[1 - a] Gamma[c] Gamma[ο ψ] Gamma[1 - P r Ω] JacobiP[-a, -1 + c, a + b - c, 1 - 2 x] JacobiP[-(P r Ω), -1 + ο ψ, P δ - ο ψ + P r Ω, 1 - 2 γ] Limit[JacobiP[ChebyshevT[-(λ Log[λ]) + k Log[P] ArcSin[P r]^ψ | (r ψ Cos[γ])/P, Ψ^Ρ], 0, b, 1 - (2 Ψ Log[Ψ]^P)/b], b -> Infinity])/(Gamma[-a + c] Gamma[ο ψ - P r Ω]) == (D["DensityMatrix" Tr[ψ, {2}], A Log[a] Log[a, Β^(A ρ)] (Log[a] Log[a, ψ])^ρ] Gamma[1 - a] Gamma[c] Gamma[ο ψ] Gamma[1 - P r Ω] JacobiP[-a, -1 + c, a + b - c, 1 - 2 x] JacobiP[-(P r Ω), -1 + ο ψ, P δ - ο ψ + P r Ω, 1 - 2 γ] Limit[JacobiP[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (r ψ Cos[γ])/P, Ψ^Ρ], 0, b, 1 - (2 Ψ Log[Ψ]^P)/b], b -> Infinity])/(Gamma[-a + c] Gamma[ο ψ - P r Ω])) for integral representations of D[Tr[ψ, {2}] "DensityMatrix", Log[ψ]^ρ A Log[Β^(ρ A)]] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] == (D["DensityMatrix" Tr[ψ, {2}], A Integrate[t^(-1), {t, 1, Β^(A ρ)}] Integrate[t^(-1), {t, 1, ψ}]^ρ] Integrate[(1 + E^(-I t))^ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (r ψ Cos[γ])/P, Ψ^Ρ]/E^(E^(I t) Ψ Log[Ψ]^P), {t, 0, 2 Pi}] Integrate[(t^(-1 + b) Hypergeometric1F1[a, c, t x])/E^t, {t, 0, Infinity}] Integrate[(t^(-1 + P δ) Hypergeometric1F1[P r Ω, ο ψ, t γ])/E^t, {t, 0, Infinity}])/(2 Pi Gamma[b] Gamma[P δ]) /; Element[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (r ψ Cos[γ])/P, Ψ^Ρ], Integers] && ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (r ψ Cos[γ])/P, Ψ^Ρ] >= 0 && Re[b] > 0 && Re[P δ] > 0 and for D[Tr[ψ, {2}] "DensityMatrix", Log[ψ]^ρ A Log[Β^(ρ A)]] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (1/P) r ψ Cos[γ], Ψ^Ρ], Ψ Log[Ψ]^P] Hypergeometric2F1[P (Ω r), P δ, ψ ο, γ] == (D["DensityMatrix" Tr[ψ, {2}], -I A (2 Pi)^(-1 - ρ) Integrate[(Gamma[-s]^2 Gamma[1 + s])/((-1 + Β^(A ρ))^s Gamma[1 - s]), {s, -I Infinity + , I Infinity + }] (-I Integrate[(Gamma[-s]^2 Gamma[1 + s])/((-1 + ψ)^s Gamma[1 - s]), {s, -I Infinity + , I Infinity + }])^ρ] Integrate[(1 + E^(-I t))^ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (r ψ Cos[γ])/P, Ψ^Ρ]/E^(E^(I t) Ψ Log[Ψ]^P), {t, 0, 2 Pi}] Integrate[(t^(-1 + b) Hypergeometric1F1[a, c, t x])/E^t, {t, 0, Infinity}] Integrate[(t^(-1 + P δ) Hypergeometric1F1[P r Ω, ο ψ, t γ])/E^t, {t, 0, Infinity}])/(2 Pi Gamma[b] Gamma[P δ]) /; Element[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (r ψ Cos[γ])/P, Ψ^Ρ], Integers] && Abs[Arg[-1 + Β^(A ρ)]] < Pi && Abs[Arg[-1 + ψ]] < Pi && ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ] | (r ψ Cos[γ])/P, Ψ^Ρ] >= 0 && -1 <  < 0 && Re[b] > 0 && Re[P δ] > 0 for

(MasterEquation30)

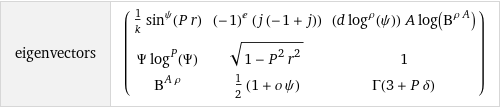
as continued fractions of (d(Tr[ψ, {2}] DensityMatrix))/(dlog^ρ(ψ) A log(Β^(ρ A))) 2F1(a, b, c, x) L\_(T\_(k sin^(-1)(P r)^ψ log(P) - λ log(λ)|(r ψ cos(γ))/P)(Ψ^Ρ))(Ψ log^P(Ψ)) 2F1(P Ω r, P δ, ψ ο, γ) = (d(DensityMatrix Tr[ψ, {2}]))/(d(A (-1 + Β^(A ρ)) ((-1 + ψ)/(1 + Κ\_(j=1)^∞ ((-1 + ψ) floor((1 + j)/2))/(1/2 (3 + (-1)^j (-1 + j) + j))))^ρ)/(1 + Κ\_(j=1)^∞ ((-1 + Β^(A ρ)) floor((1 + j)/2))/(1/2 (3 + (-1)^j (-1 + j) + j)))) L\_(T\_(-((-1 + λ) λ)/(1 + Κ\_(j=1)^∞ ((-1 + λ) floor((1 + j)/2))/(1/2 (3 + (-1)^j (-1 + j) + j))) + (k (-1 + P) ((P r sqrt(1 - P^2 r^2))/(1 + Κ\_(j=1)^∞ (-2 P^2 r^2 floor((1 + j)/2) (-1 + 2 floor((1 + j)/2)))/(1 + 2 j)))^ψ)/(1 + Κ\_(j=1)^∞ ((-1 + P) floor((1 + j)/2))/(1/2 (3 + (-1)^j (-1 + j) + j)))|(r ψ cos(γ))/P)(Ψ^Ρ))(Ψ ((-1 + Ψ)/(1 + Κ\_(j=1)^∞ ((-1 + Ψ) floor((1 + j)/2))/(1/2 (3 + (-1)^j (-1 + j) + j))))^P) (1 + (a b x)/(c (1 + Κ\_(j=1)^∞ (-((a + j) (b + j) x)/((1 + j) (c + j)))/(1 + ((a + j) (b + j) x)/((1 + j) (c + j)))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + Κ\_(j=1)^∞ (-(γ (j + P δ) (j + P r Ω))/((1 + j) (j + ο ψ)))/(1 + (γ (j + P δ) (j + P r Ω))/((1 + j) (j + ο ψ)))))) = (d(DensityMatrix Tr[ψ, {2}]))/(d(A (-1 + Β^(A ρ)) ((-1 + ψ)/(1 + (-1 + ψ)/(2 + (-1 + ψ)/(3 + (2 (-1 + ψ))/(2 + (2 (-1 + ψ))/(5 + ...))))))^ρ)/(1 + (-1 + Β^(A ρ))/(2 + (-1 + Β^(A ρ))/(3 + (2 (-1 + Β^(A ρ)))/(2 + (2 (-1 + Β^(A ρ)))/(5 + ...)))))) L\_(T\_(-((-1 + λ) λ)/(1 + (-1 + λ)/(2 + (-1 + λ)/(3 + (2 (-1 + λ))/(2 + (2 (-1 + λ))/(5 + ...))))) + (k (-1 + P) ((P r sqrt(1 - P^2 r^2))/(1 + -(2 P^2 r^2)/(3 - (2 P^2 r^2)/(5 - (12 P^2 r^2)/(7 - (12 P^2 r^2)/(9 + ...))))))^ψ)/(1 + (-1 + P)/(2 + (-1 + P)/(3 + (2 (-1 + P))/(2 + (2 (-1 + P))/(5 + ...)))))|(r ψ cos(γ))/P)(Ψ^Ρ))(Ψ ((-1 + Ψ)/(1 + (-1 + Ψ)/(2 + (-1 + Ψ)/(3 + (2 (-1 + Ψ))/(2 + (2 (-1 + Ψ))/(5 + ...))))))^P) (1 + (a b x)/(c (1 + -((1 + a) (1 + b) x)/(2 (1 + c) (1 + ((1 + a) (1 + b) x)/(2 (1 + c)) - ((2 + a) (2 + b) x)/(3 (2 + c) (1 + ((2 + a) (2 + b) x)/(3 (2 + c)) - ((3 + a) (3 + b) x)/(4 (3 + c) (1 + ((3 + a) (3 + b) x)/(4 (3 + c)) - ((4 + a) (4 + b) x)/(5 (4 + c) (1 + ... + ((4 + a) (4 + b) x)/(5 (4 + c))))))))))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + -(γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ) (1 + (γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ)) - (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ) (1 + (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ)) - (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ) (1 + (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ)) - (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ) (1 + ... + (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ))))))))))))) for ((not (P r element R and -∞<P r<=-1)) and (not (P r element R and 1<=P r<∞)) and (not (P element R and -∞<-1 + P<=-1)) and (not (Β^(A ρ) element R and -∞<-1 + Β^(A ρ)<=-1)) and (not (λ element R and -∞<-1 + λ<=-1)) and (not (ψ element R and -∞<-1 + ψ<=-1)) and (not (Ψ element R and -∞<-1 + Ψ<=-1))) and for (d(Tr[ψ, {2}] DensityMatrix))/(dlog^ρ(ψ) A log(Β^(ρ A))) 2F1(a, b, c, x) L\_(T\_(k sin^(-1)(P r)^ψ log(P) - λ log(λ)|(r ψ cos(γ))/P)(Ψ^Ρ))(Ψ log^P(Ψ)) 2F1(P Ω r, P δ, ψ ο, γ) = (d(DensityMatrix Tr[ψ, {2}]))/(d(A (-1 + Β^(A ρ)) ((-1 + ψ)/(1 + Κ\_(j=1)^∞ ((-1 + ψ) floor((1 + j)/2)^2)/(1 + j)))^ρ)/(1 + Κ\_(j=1)^∞ ((-1 + Β^(A ρ)) floor((1 + j)/2)^2)/(1 + j))) L\_(T\_(-((-1 + λ) λ)/(1 + Κ\_(j=1)^∞ ((-1 + λ) floor((1 + j)/2)^2)/(1 + j)) + (k (-1 + P) ((P r sqrt(1 - P^2 r^2))/(1 + Κ\_(j=1)^∞ (-2 P^2 r^2 floor((1 + j)/2) (-1 + 2 floor((1 + j)/2)))/(1 + 2 j)))^ψ)/(1 + Κ\_(j=1)^∞ ((-1 + P) floor((1 + j)/2)^2)/(1 + j))|(r ψ cos(γ))/P)(Ψ^Ρ))(Ψ ((-1 + Ψ)/(1 + Κ\_(j=1)^∞ ((-1 + Ψ) floor((1 + j)/2)^2)/(1 + j)))^P) (1 + (a b x)/(c (1 + Κ\_(j=1)^∞ (-((a + j) (b + j) x)/((1 + j) (c + j)))/(1 + ((a + j) (b + j) x)/((1 + j) (c + j)))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + Κ\_(j=1)^∞ (-(γ (j + P δ) (j + P r Ω))/((1 + j) (j + ο ψ)))/(1 + (γ (j + P δ) (j + P r Ω))/((1 + j) (j + ο ψ)))))) = (d(DensityMatrix Tr[ψ, {2}]))/(d(A (-1 + Β^(A ρ)) ((-1 + ψ)/(1 + (-1 + ψ)/(2 + (-1 + ψ)/(3 + (4 (-1 + ψ))/(4 + (4 (-1 + ψ))/(5 + ...))))))^ρ)/(1 + (-1 + Β^(A ρ))/(2 + (-1 + Β^(A ρ))/(3 + (4 (-1 + Β^(A ρ)))/(4 + (4 (-1 + Β^(A ρ)))/(5 + ...)))))) L\_(T\_(-((-1 + λ) λ)/(1 + (-1 + λ)/(2 + (-1 + λ)/(3 + (4 (-1 + λ))/(4 + (4 (-1 + λ))/(5 + ...))))) + (k (-1 + P) ((P r sqrt(1 - P^2 r^2))/(1 + -(2 P^2 r^2)/(3 - (2 P^2 r^2)/(5 - (12 P^2 r^2)/(7 - (12 P^2 r^2)/(9 + ...))))))^ψ)/(1 + (-1 + P)/(2 + (-1 + P)/(3 + (4 (-1 + P))/(4 + (4 (-1 + P))/(5 + ...)))))|(r ψ cos(γ))/P)(Ψ^Ρ))(Ψ ((-1 + Ψ)/(1 + (-1 + Ψ)/(2 + (-1 + Ψ)/(3 + (4 (-1 + Ψ))/(4 + (4 (-1 + Ψ))/(5 + ...))))))^P) (1 + (a b x)/(c (1 + -((1 + a) (1 + b) x)/(2 (1 + c) (1 + ((1 + a) (1 + b) x)/(2 (1 + c)) - ((2 + a) (2 + b) x)/(3 (2 + c) (1 + ((2 + a) (2 + b) x)/(3 (2 + c)) - ((3 + a) (3 + b) x)/(4 (3 + c) (1 + ((3 + a) (3 + b) x)/(4 (3 + c)) - ((4 + a) (4 + b) x)/(5 (4 + c) (1 + ... + ((4 + a) (4 + b) x)/(5 (4 + c))))))))))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + -(γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ) (1 + (γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ)) - (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ) (1 + (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ)) - (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ) (1 + (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ)) - (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ) (1 + ... + (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ))))))))))))) for ((not (P r element R and -∞<P r<=-1)) and (not (P r element R and 1<=P r<∞)) and (not (P element R and -∞<-1 + P<=-1)) and (not (Β^(A ρ) element R and -∞<-1 + Β^(A ρ)<=-1)) and (not (λ element R and -∞<-1 + λ<=-1)) and (not (ψ element R and -∞<-1 + ψ<=-1)) and (not (Ψ element R and -∞<-1 + Ψ<=-1))) fo the (d(Tr[ψ, {2}] DensityMatrix))/(dlog^ρ(ψ) A log(Β^(ρ A))) 2F1(a, b, c, x) L\_(T\_(k sin^(-1)(P r)^ψ log(P) - λ log(λ)|(r ψ cos(γ))/P)(Ψ^Ρ))(Ψ log^P(Ψ)) 2F1(P Ω r, P δ, ψ ο, γ) = (d(DensityMatrix Tr[ψ, {2}]))/(dA log(Β^(A ρ)) log^ρ(ψ)) L\_(T\_(-λ log(λ) + k log(P) ((P r sqrt(1 - P^2 r^2))/(1 + Κ\_(j=1)^∞ (-2 P^2 r^2 floor((1 + j)/2) (-1 + 2 floor((1 + j)/2)))/(1 + 2 j)))^ψ|(r ψ cos(γ))/P)(Ψ^Ρ))(Ψ log^P(Ψ)) (1 + (a b x)/(c (1 + Κ\_(j=1)^∞ (-((a + j) (b + j) x)/((1 + j) (c + j)))/(1 + ((a + j) (b + j) x)/((1 + j) (c + j)))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + Κ\_(j=1)^∞ (-(γ (j + P δ) (j + P r Ω))/((1 + j) (j + ο ψ)))/(1 + (γ (j + P δ) (j + P r Ω))/((1 + j) (j + ο ψ)))))) = (d(DensityMatrix Tr[ψ, {2}]))/(dA log(Β^(A ρ)) log^ρ(ψ)) L\_(T\_(-λ log(λ) + k log(P) ((P r sqrt(1 - P^2 r^2))/(1 + -(2 P^2 r^2)/(3 - (2 P^2 r^2)/(5 - (12 P^2 r^2)/(7 - (12 P^2 r^2)/(9 + ...))))))^ψ|(r ψ cos(γ))/P)(Ψ^Ρ))(Ψ log^P(Ψ)) (1 + (a b x)/(c (1 + -((1 + a) (1 + b) x)/(2 (1 + c) (1 + ((1 + a) (1 + b) x)/(2 (1 + c)) - ((2 + a) (2 + b) x)/(3 (2 + c) (1 + ((2 + a) (2 + b) x)/(3 (2 + c)) - ((3 + a) (3 + b) x)/(4 (3 + c) (1 + ((3 + a) (3 + b) x)/(4 (3 + c)) - ((4 + a) (4 + b) x)/(5 (4 + c) (1 + ... + ((4 + a) (4 + b) x)/(5 (4 + c))))))))))))) (1 + (P^2 r γ δ Ω)/(ο ψ (1 + -(γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ) (1 + (γ (1 + P δ) (1 + P r Ω))/(2 (1 + ο ψ)) - (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ) (1 + (γ (2 + P δ) (2 + P r Ω))/(3 (2 + ο ψ)) - (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ) (1 + (γ (3 + P δ) (3 + P r Ω))/(4 (3 + ο ψ)) - (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ) (1 + ... + (γ (4 + P δ) (4 + P r Ω))/(5 (4 + ο ψ))))))))))))) for (P r not element R or ((not 1<=P r<∞) and (not -∞<P r<=-1))) quantum entanglement functions of LegendreP[ρ^3/3, x] LegendreP[Integrate[x, {x, ρ^2, ρ}], x] (D[Tr[ψ, {2}] "DensityMatrix", Log[ψ]^ρ A Log[Β^(ρ A)]] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ], x], x]) == (2^(-1 + ρ^3/3 + Integrate[x, {x, ρ^2, ρ}]) D["DensityMatrix" Tr[ψ, {2}], A Integrate[t^(-1), {t, 1, Β^(A ρ)}] Integrate[t^(-1), {t, 1, ψ}]^ρ] Integrate[(1 + E^(-I t))^ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ], x]/E^(E^(I t) x), {t, 0, 2 Pi}] Integrate[(1 + t^2)^(-1 - ρ^3/3) (I t + x)^(ρ^3/3), {t, -Infinity, Infinity}] Integrate[(1 + t^2)^(-1 - Integrate[x, {x, ρ^2, ρ}]) (I t + x)^Integrate[x, {x, ρ^2, ρ}], {t, -Infinity, Infinity}] Integrate[(t^(-1 + b) Hypergeometric1F1[a, c, t x])/E^t, {t, 0, Infinity}])/(Pi^3 Gamma[b]) /; Element[ρ^3/3, Integers] && ρ >= 0 && Element[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ], x], Integers] && ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ], x] >= 0 && Element[Integrate[x, {x, ρ^2, ρ}], Integers] && Integrate[x, {x, ρ^2, ρ}] >= 0 && Re[b] > 0 for

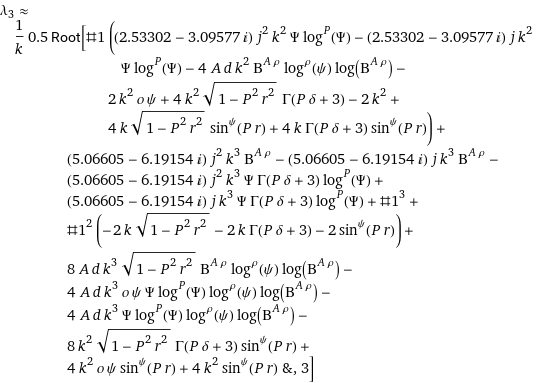
(MasterEquation31a)

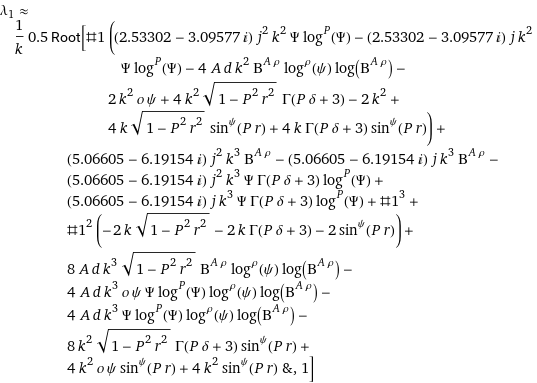


Given a pure bipartite quantum state of the composite system, it is possible to obtain a reduced density matrix describing knowledge of the state of the pharmacophoric subsystems when (P\_(ρ^3/3)(x) P\_( integral\_(ρ^2)^ρ x dx)(x)) (d(Tr[ψ, {2}] DensityMatrix))/(dlog^ρ(ψ) A log(Β^(ρ A))) (2F1(a, b, c, x) L\_T\_(k sin^(-1)(P r)^ψ log(P) - λ log(λ))(x)(x)) = (d(DensityMatrix Tr[ψ, {2}]))/(d(A (-1 + Β^(A ρ)) ((-1 + ψ)/(1 + Κ\_(j=1)^∞ ((-1 + ψ) floor((1 + j)/2))/(1/2 (3 + (-1)^j (-1 + j) + j))))^ρ)/(1 + Κ\_(j=1)^∞ ((-1 + Β^(A ρ)) floor((1 + j)/2))/(1/2 (3 + (-1)^j (-1 + j) + j)))) L\_T\_(-((-1 + λ) λ)/(1 + Κ\_(j=1)^∞ ((-1 + λ) floor((1 + j)/2))/(1/2 (3 + (-1)^j (-1 + j) + j))) + (k (-1 + P) ((P r sqrt(1 - P^2 r^2))/(1 + Κ\_(j=1)^∞ (-2 P^2 r^2 floor((1 + j)/2) (-1 + 2 floor((1 + j)/2)))/(1 + 2 j)))^ψ)/(1 + Κ\_(j=1)^∞ ((-1 + P) floor((1 + j)/2))/(1/2 (3 + (-1)^j (-1 + j) + j))))(x)(x) P\_(ρ^3/3)(x) P\_( integral\_(ρ^2)^ρ x dx)(x) (1 + (a b x)/(c (1 + Κ\_(j=1)^∞ (-((a + j) (b + j) x)/((1 + j) (c + j)))/(1 + ((a + j) (b + j) x)/((1 + j) (c + j)))))) = (d(DensityMatrix Tr[ψ, {2}]))/(d(A (-1 + Β^(A ρ)) ((-1 + ψ)/(1 + (-1 + ψ)/(2 + (-1 + ψ)/(3 + (2 (-1 + ψ))/(2 + (2 (-1 + ψ))/(5 + ...))))))^ρ)/(1 + (-1 + Β^(A ρ))/(2 + (-1 + Β^(A ρ))/(3 + (2 (-1 + Β^(A ρ)))/(2 + (2 (-1 + Β^(A ρ)))/(5 + ...)))))) L\_T\_(-((-1 + λ) λ)/(1 + (-1 + λ)/(2 + (-1 + λ)/(3 + (2 (-1 + λ))/(2 + (2 (-1 + λ))/(5 + ...))))) + (k (-1 + P) ((P r sqrt(1 - P^2 r^2))/(1 + -(2 P^2 r^2)/(3 - (2 P^2 r^2)/(5 - (12 P^2 r^2)/(7 - (12 P^2 r^2)/(9 + ...))))))^ψ)/(1 + (-1 + P)/(2 + (-1 + P)/(3 + (2 (-1 + P))/(2 + (2 (-1 + P))/(5 + ...))))))(x)(x) P\_(ρ^3/3)(x) P\_(ρ^2/2 - ρ^4/2)(x) (1 + (a b x)/(c (1 + -((1 + a) (1 + b) x)/(2 (1 + c) (1 + ((1 + a) (1 + b) x)/(2 (1 + c)) - ((2 + a) (2 + b) x)/(3 (2 + c) (1 + ((2 + a) (2 + b) x)/(3 (2 + c)) - ((3 + a) (3 + b) x)/(4 (3 + c) (1 + ((3 + a) (3 + b) x)/(4 (3 + c)) - ((4 + a) (4 + b) x)/(5 (4 + c) (1 + ... + ((4 + a) (4 + b) x)/(5 (4 + c))))))))))))) for ((not (P r element R and -∞<P r<=-1)) and (not (P r element R and 1<=P r<∞)) and (not (P element R and -∞<-1 + P<=-1)) and (not (Β^(A ρ) element R and -∞<-1 + Β^(A ρ)<=-1)) and (not (λ element R and -∞<-1 + λ<=-1)) and (not (ψ element R and -∞<-1 + ψ<=-1))) for eigenvectors of

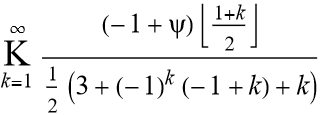
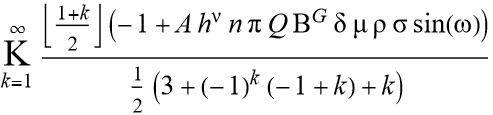
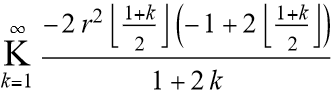
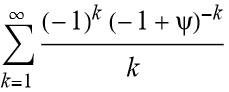
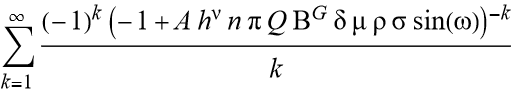
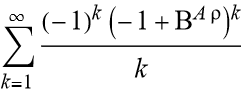
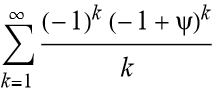
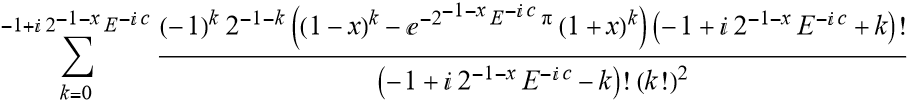
(MasterEquation31b1)

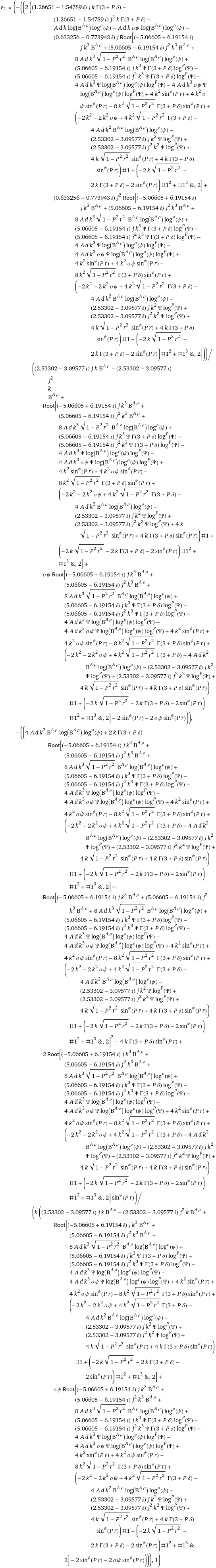
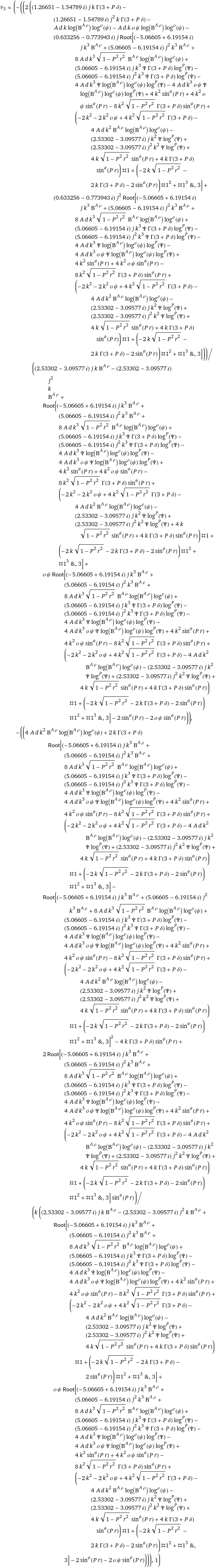


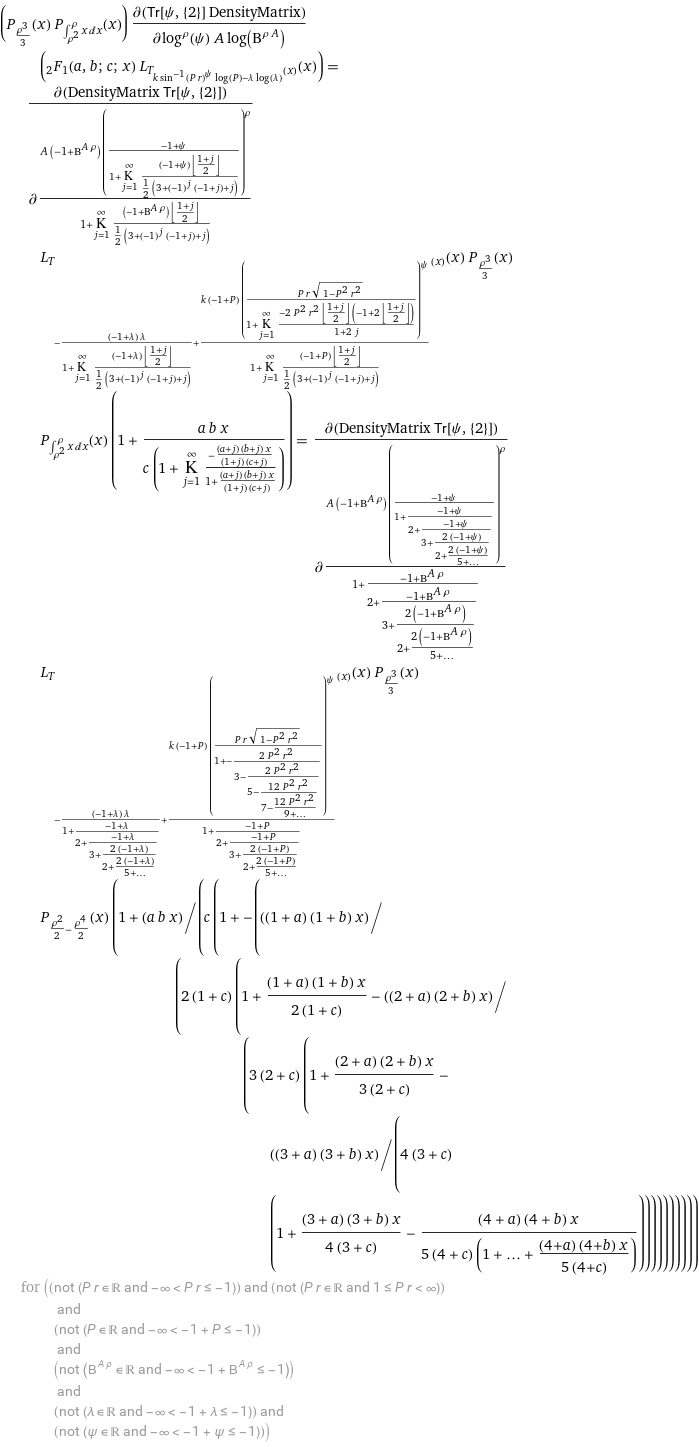
(MasterEquation31b2)

(MasterEquation31b3)

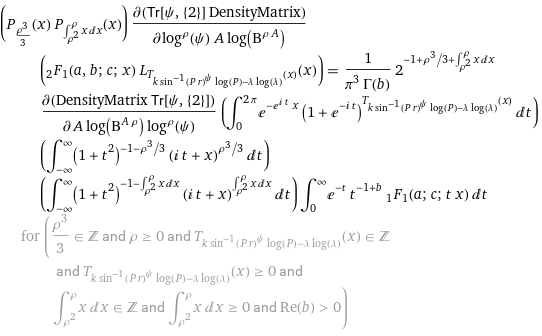
when Image(x) (c4 G M2 π r R S10 δ θ4 log(-(1/( g))) log4(I r+Image) log(C(Qcos(z))) x+log(-(1/( g))) log4(I r+Image)+O((1/x)13)){ {log(-(1/( g))) log4(Image+I r)+x log(-(1/( g))) log4(Image+I r) (N LaguerreL(1,0)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4)+π c4 δ G θ4 M2 r R S10 log(C(Qcos(z))))+1/2 x2 log(-(1/( g))) log4(Image+I r) (2 π c4 δ G θ4 M2 N r R S10 LaguerreL(1,0)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4) log(C(Qcos(z)))+N2 LaguerreL(2,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+N2 LaguerreL(1,0)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+2 N LaguerreL(1,1)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4))+x3 log(-(1/( g))) log4(Image+I r) (1/2 π c4 δ G θ4 M2 r R S10 log(C(Qcos(z))) (N2 LaguerreL(2,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+N2 LaguerreL(1,0)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+2 N LaguerreL(1,1)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4))+1/6 (N3 LaguerreL(3,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)3+3 N3 LaguerreL(2,0)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,2,0)(n,0,(E a)/4)+N3 LaguerreL(1,0)(0,0) GegenbauerC(0,3,0)(n,0,(E a)/4)+3 N2 LaguerreL(2,1)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+3 N2 LaguerreL(1,1)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+3 N LaguerreL(1,2)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4)))+x4 log(-(1/( g))) log4(Image+I r) (1/6 π c4 δ G θ4 M2 r R S10 log(C(Qcos(z))) (N3 LaguerreL(3,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)3+3 N3 LaguerreL(2,0)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,2,0)(n,0,(E a)/4)+N3 LaguerreL(1,0)(0,0) GegenbauerC(0,3,0)(n,0,(E a)/4)+3 N2 LaguerreL(2,1)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+3 N2 LaguerreL(1,1)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+3 N LaguerreL(1,2)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4))+1/24 (N4 LaguerreL(4,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)4+3 N4 LaguerreL(2,0)(0,0) GegenbauerC^(0,2,0)(n,0,(E a)/4)2+6 N4 LaguerreL(3,0)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2 GegenbauerC(0,2,0)(n,0,(E a)/4)+4 N4 LaguerreL(2,0)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,3,0)(n,0,(E a)/4)+N4 LaguerreL(1,0)(0,0) GegenbauerC(0,4,0)(n,0,(E a)/4)+4 N3 LaguerreL(3,1)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)3+12 N3 LaguerreL(2,1)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4) GegenbauerC(0,2,0)(n,0,(E a)/4)+4 N3 LaguerreL(1,1)(0,0) GegenbauerC(0,3,0)(n,0,(E a)/4)+6 N2 LaguerreL(2,2)(0,0) GegenbauerC^(0,1,0)(n,0,(E a)/4)2+6 N2 LaguerreL(1,2)(0,0) GegenbauerC(0,2,0)(n,0,(E a)/4)+4 N LaguerreL(1,3)(0,0) GegenbauerC(0,1,0)(n,0,(E a)/4)))+O(x5)}, {(Taylor series)}} for -π c4 δ G θ4 M2 r R S10 x log(g) log4(Image+I r) log(C(Qcos(z))) Image(x)+I π2 c4 δ G θ4 M2 r R S10 x log4(Image+I r) log(C(Qcos(z))) Image(x)-π c4 δ G θ4 M2 r R S10 x log() log4(Image+I r) log(C(Qcos(z))) Image(x)-log(g) log4(Image+I r) Image(x)+I π log4(Image+I r) Image(x)-log() log4(Image+I r) Image(x)π c4 δ G θ4 M2 r R S10 x log(-(1/( g))) log4(Image+I r) log(C(Qcos(z))) Image(x)+log(-(1/( g))) log4(Image+I r) Image(x)log(-(1/( g))) sin^-1(r)4 Image(x) (π c4 δ G θ4 M2 r R S10 x log(C(Qcos(z)))+1) functions of Image(x)/Γ((1-n)/2)+2-2+n (E-I/2 n π+EI/2 n π) (1+a+b+n) Image Ln(0)Image 2n-2 (E-1/2 I π n+E(I π n)/2) Ln(0) (a+b+n+1)+Image(x)/Γ((1-n)/2)Image 2n-1 cos((π n)/2) (a+b+n+1)+Image(x)/Γ(1/2-n/2)Image 2n-2 E-1/2 I π n Ln(0) (a+b+n+1)+Image 2n-2 E(I π n)/2 Ln(0) (a+b+n+1)+Image(x)/Γ((1-n)/2)1/(2 ((1-n)/2)!) (2n ((1-n)/2)! Ln(0) cos((π n)/2) (Image a+Image b+Image (n+1))-(n-1) Image(x))Image a 2n-2 E-1/2 I π n Ln(0)+Image a 2n-2 E(I π n)/2 Ln(0)+Image b 2n-2 E-1/2 I π n Ln(0)+Image b 2n-2 E(I π n)/2 Ln(0)+Image(x)/Γ((1-n)/2)+Image 2n-2 E-1/2 I π n Ln(0)+Image 2n-2 E(I π n)/2 Ln(0)+Image 2n-2 E-1/2 I π n n Ln(0)+Image 2n-2 E(I π n)/2 n Ln(0)(Image 2n-2 E-1/2 I π n (1+EI π n) Ln(0) (a+b+n+1)+1.000000000000000+0.\*10-23 I/Γ((1-n)/2))-((3.176241208548021\*10-7+2.658864199457518\*10-7 I) x)/Γ((1-n)/2)-((7.940602266632707\*10-8+6.647156276046776\*10-8 I) x2)/Γ((1-n)/2)-((1.764578197614132\*10-8+1.477145369944230\*10-8 I) x3)/Γ((1-n)/2)-((3.308584015701681\*10-9+2.769646982173945\*10-9 I) x4)/Γ((1-n)/2)+O(x5)(∂/(∂ x)) (Image 2n-2 (E-1/2 I π n+E(I π n)/2) Ln(0) (a+b+n+1)+Image(x)/Γ((1-n)/2))==-(Image/Γ(1-n/2))\[Integral](Image(x)/Γ((1-n)/2)+2-2+n (E-1/2 I n π+E(I n π)/2) (1+a+b+n) Image Ln(0))x==0.443113462726379 E(0.6931471805599453-1.570796326794897 I) n (1.000000000000000+E3.141592653589793 I n) x Ln(0) (a+b+n+1.000000000000000)+Image(x)/Γ(0.5000000000000000-0.5000000000000000 n)-(1.0000000000000000 Image(x))/Γ(0.5000000000000000-0.5000000000000000 n) Image(x)Image(x)Image(x)Image(x)Image(x) { {Image(-2.9794841999999997\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+2,2.9794841999999997\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν-1;1;1/2)-0.5 x ((-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+2) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν-1) Image(-2.9794841999999997\*10-19 m cos(μ) sin(ω) ΨC+6.02214\*1023 G hν n+3,2.9794841999999997\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G hν n;2;1/2))+0.125 x2 (-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+2) (-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+3) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν-1) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν) Image(-2.9794841999999997\*10-19 m cos(μ) sin(ω) ΨC+6.02214\*1023 G hν n+4,2.9794841999999997\*10-19 m cos(μ) sin(ω) ΨC-6.02214\*1023 G hν n+1;3;1/2)-0.0208333 x3 ((-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+2) (-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+3) (-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+4) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν-1) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν+1) Image(-2.9794841999999997\*10-19 m cos(μ) sin(ω) ΨC+6.02214\*1023 G hν n+5,2.9794841999999997\*10-19 m cos(μ) sin(ω) ΨC-6.02214\*1023 G hν n+2;4;1/2))+0.00260417 x4 (-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+2) (-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+3) (-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+4) (-2.97948\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+5) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν-1) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν+1) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν+2) Image(-2.9794841999999997\*10-19 m cos(μ) sin(ω) ΨC+6.02214\*1023 G hν n+6,2.9794841999999997\*10-19 m cos(μ) sin(ω) ΨC-6.02214\*1023 G hν n+3;5;1/2)+O(x5)},

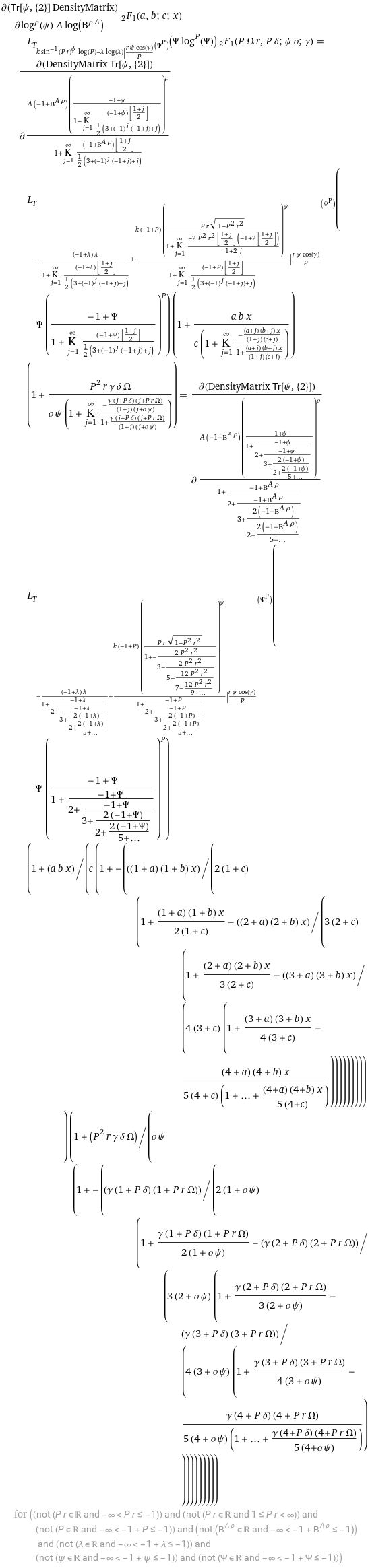
{(Taylor series)}} (Image Γ(-5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+3) x)/Γ(-2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C+6.02214\*10^23 G h^ν n+2)2+(Image Γ(-5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+3) (-((2 (2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C-6.02214\*10^23 G h^ν n-1)3)/(5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-2))-(2 (2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C-6.02214\*10^23 G h^ν n-1)2)/(5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-2)+(2 (2.9794841999999997\*10^-19 m Ψ^C cos(μ) sin(ω)-6.02214\*10^23 G h^ν n)2 (2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C-6.02214\*10^23 G h^ν n-1)2)/((5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-2) (5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-1))+0.5 (2.97948\*10-19 m cos(μ) sin(ω) ΨC-6.02214\*1023 G hν n-1) (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G hν n)))/(Γ(-2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C+6.02214\*10^23 G h^ν n+2)2 x)+(0.5 Image Γ(-5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+3) (1.30624\*1077 G4 h4 ν m n4 cos(μ) sin(ω) ΨC-3.40282\*1038 G3 h3 ν m n3 cos(μ) sin(ω) ΨC-4.32218\*1029 G2 h2 ν m n2 cos(μ) sin(ω) ΨC+1.98632\*10-19 m cos(μ) sin(ω) ΨC+9.31323\*10-10 G hν m n cos(μ) sin(ω) ΨC-1.29254\*1035 G3 h3 ν m2 n3 cos2(μ) sin2(ω) Ψ2 C+0.000244141 G2 h2 ν m2 n2 cos2(μ) sin2(ω) Ψ2 C+2.13842\*10-13 G hν m2 n cos2(μ) sin2(ω) Ψ2 C-3.52665\*10-56 m3 cos3(μ) sin3(ω) Ψ3 C+6.3949\*10-8 G2 h2 ν m3 n2 cos3(μ) sin3(ω) Ψ3 C-8.75812\*10-47 G hν m3 n cos3(μ) sin3(ω) Ψ3 C+1.57091\*10-89 m4 cos4(μ) sin4(ω) Ψ4 C-1.58195\*10-50 G hν m4 n cos4(μ) sin4(ω) Ψ4 C+1.56536\*10-93 m5 cos5(μ) sin5(ω) Ψ5 C-5.28036\*10118 G5 h5 ν n5+2.912\*1071 G3 h3 ν n3-4.01476\*1023 G hν n))/(Γ(-2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C+6.02214\*10^23 G h^ν n+2)2 (5.95897\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-2) (5.95897\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-1) x2)+(0.5 Image Γ(-5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+3) (-7.07973\*10100 G5 h5 ν m n5 cos(μ) sin(ω) ΨC+1.46952\*1077 G4 h4 ν m n4 cos(μ) sin(ω) ΨC+3.2536\*1053 G3 h3 ν m n3 cos(μ) sin(ω) ΨC-4.05204\*1029 G2 h2 ν m n2 cos(μ) sin(ω) ΨC+1.48974\*10-19 m cos(μ) sin(ω) ΨC-269143. G hν m n cos(μ) sin(ω) ΨC+8.75683\*1058 G4 h4 ν m2 n4 cos2(μ) sin2(ω) Ψ2 C-1.45411\*1035 G3 h3 ν m2 n3 cos2(μ) sin2(ω) Ψ2 C+6.65799\*10-38 m2 cos2(μ) sin2(ω) Ψ2 C-2.4146\*1011 G2 h2 ν m2 n2 cos2(μ) sin2(ω) Ψ2 C+2.00477\*10-13 G hν m2 n cos2(μ) sin2(ω) Ψ2 C-3.30623\*10-56 m3 cos3(μ) sin3(ω) Ψ3 C-5.77665\*1016 G3 h3 ν m3 n3 cos3(μ) sin3(ω) Ψ3 C+7.19426\*10-8 G2 h2 ν m3 n2 cos3(μ) sin3(ω) Ψ3 C+7.96424\*10-32 G hν m3 n cos3(μ) sin3(ω) Ψ3 C-9.85086\*10-75 m4 cos4(μ) sin4(ω) Ψ4 C+2.14352\*10-26 G2 h2 ν m4 n2 cos4(μ) sin4(ω) Ψ4 C-1.7797\*10-50 G hν m4 n cos4(μ) sin4(ω) Ψ4 C+1.76103\*10-93 m5 cos5(μ) sin5(ω) Ψ5 C-4.24207\*10-69 G hν m5 n cos5(μ) sin5(ω) Ψ5 C+3.49797\*10-112 m6 cos6(μ) sin6(ω) Ψ6 C+2.38493\*10142 G6 h6 ν n6-5.9404\*10118 G5 h5 ν n5-1.64404\*1095 G4 h4 ν n4+2.73\*1071 G3 h3 ν n3+2.71996\*1047 G2 h2 ν n2-3.01107\*1023 G hν n))/(Γ(-2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C+6.02214\*10^23 G h^ν n+2)2 (5.95897\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-2) (5.95897\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-1) x3)+(0.5 Image Γ(-5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+3) (1.98964\*10124 G6 h6 ν m n6 cos(μ) sin(ω) ΨC-1.22715\*10101 G5 h5 ν m n5 cos(μ) sin(ω) ΨC+5.22497\*1076 G4 h4 ν m n4 cos(μ) sin(ω) ΨC+5.20576\*1053 G3 h3 ν m n3 cos(μ) sin(ω) ΨC-2.80942\*1029 G2 h2 ν m n2 cos(μ) sin(ω) ΨC+1.19179\*10-19 m cos(μ) sin(ω) ΨC-406705. G hν m n cos(μ) sin(ω) ΨC-2.95315\*1082 G5 h5 ν m2 n5 cos2(μ) sin2(ω) Ψ2 C+1.51785\*1059 G4 h4 ν m2 n4 cos2(μ) sin2(ω) Ψ2 C-5.17016\*1034 G3 h3 ν m2 n3 cos2(μ) sin2(ω) Ψ2 C+1.0061\*10-37 m2 cos2(μ) sin2(ω) Ψ2 C-3.86336\*1011 G2 h2 ν m2 n2 cos2(μ) sin2(ω) Ψ2 C+1.38997\*10-13 G hν m2 n cos2(μ) sin2(ω) Ψ2 C+2.43515\*1040 G4 h4 ν m3 n4 cos3(μ) sin3(ω) Ψ3 C-2.29232\*10-56 m3 cos3(μ) sin3(ω) Ψ3 C-1.00129\*1017 G3 h3 ν m3 n3 cos3(μ) sin3(ω) Ψ3 C+2.55796\*10-8 G2 h2 ν m3 n2 cos3(μ) sin3(ω) Ψ3 C+1.27428\*10-31 G hν m3 n cos3(μ) sin3(ω) Ψ3 C-1.57614\*10-74 m4 cos4(μ) sin4(ω) Ψ4 C-0.012048 G3 h3 ν m4 n3 cos4(μ) sin4(ω) Ψ4 C+3.71543\*10-26 G2 h2 ν m4 n2 cos4(μ) sin4(ω) Ψ4 C-6.32782\*10-51 G hν m4 n cos4(μ) sin4(ω) Ψ4 C+6.26144\*10-94 m5 cos5(μ) sin5(ω) Ψ5 C+3.57649\*10-45 G2 h2 ν m5 n2 cos5(μ) sin5(ω) Ψ5 C-7.35292\*10-69 G hν m5 n cos5(μ) sin5(ω) Ψ5 C+6.06315\*10-112 m6 cos6(μ) sin6(ω) Ψ6 C-5.89828\*10-88 G hν m6 n cos6(μ) sin6(ω) Ψ6 C+4.16886\*10-131 m7 cos7(μ) sin7(ω) Ψ7 C-5.74495\*10165 G7 h7 ν n7+4.13388\*10142 G6 h6 ν n6-2.11214\*10118 G5 h5 ν n5-2.63047\*1095 G4 h4 ν n4+1.8928\*1071 G3 h3 ν n3+4.11017\*1047 G2 h2 ν n2-2.40886\*1023 G hν n))/(Γ(-2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C+6.02214\*10^23 G h^ν n+2)2 (5.95897\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-2) (5.95897\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-1) x4)+O((1/x)5)) Image+((Image Γ(5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-3))/(Γ(2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C-6.02214\*10^23 G h^ν n-1)2 x2)+(Image Γ(5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-3) (-((2 (-2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C+6.02214\*10^23 G h^ν n+2)3)/(-5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+4))+(2 (-2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C+6.02214\*10^23 G h^ν n+3)2 (-2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C+6.02214\*10^23 G h^ν n+2)2)/((-5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+4) (-5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+5))-(2 (-2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C+6.02214\*10^23 G h^ν n+2)2)/(-5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+4)+0.5 (-2.97948\*10-19 m cos(μ) sin(ω) ΨC+6.02214\*1023 G hν n+2) (-2.97948\*10-19 m cos(μ) sin(ω) ΨC+6.02214\*1023 G hν n+3)))/(Γ(2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C-6.02214\*10^23 G h^ν n-1)2 x4)+(4 Image Γ(5.9589683999999994\*10-19 m cos(μ) sin(ω) ΨC-1.20443\*1024 G hν n-3) (3.29101\*1063 G4 h4 ν m n4 cos(μ) sin(ω) ΨC-1.0889\*1040 G3 h3 ν m n3 cos(μ) sin(ω) ΨC-3.60288\*1016 G2 h2 ν m n2 cos(μ) sin(ω) ΨC+1.47911\*10-31 m cos(μ) sin(ω) ΨC-1.78814\*10-7 G hν m n cos(μ) sin(ω) ΨC+1.78406\*1044 G4 h4 ν m2 n4 cos2(μ) sin2(ω) Ψ2 C-2.36118\*1021 G3 h3 ν m2 n3 cos2(μ) sin2(ω) Ψ2 C-4.27642\*10-50 m2 cos2(μ) sin2(ω) Ψ2 C-0.0078125 G2 h2 ν m2 n2 cos2(μ) sin2(ω) Ψ2 C+2.58494\*10-26 G hν m2 n cos2(μ) sin2(ω) Ψ2 C+4.63651\*10-69 m3 cos3(μ) sin3(ω) Ψ3 C-8.47033\*10-22 G2 h2 ν m3 n2 cos3(μ) sin3(ω) Ψ3 C+5.60519\*10-45 G hν m3 n cos3(μ) sin3(ω) Ψ3 C-2.51346\*10-88 m4 cos4(μ) sin4(ω) Ψ4 C+1.51929\*10-64 G hν m4 n cos4(μ) sin4(ω) Ψ4 C+2.72509\*10-107 m5 cos5(μ) sin5(ω) Ψ5 C-4.11805\*10-84 G hν m5 n cos5(μ) sin5(ω) Ψ5 C+3.69319\*10-127 m6 cos6(μ) sin6(ω) Ψ6 C-5.02168\*1058 G3 h3 ν n3+8.30767\*1034 G2 h2 ν n2+1.37439\*1011 G hν n))/(Γ(2.9794841999999997\*10^-19 m cos(μ) sin(ω) Ψ^C-6.02214\*10^23 G h^ν n-1)2 (-5.95897\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+4) (-5.95897\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+5) (-5.95897\*10-19 m cos(μ) sin(ω) ΨC+1.20443\*1024 G hν n+6) x5)+O((1/x)6))(∂/(∂ x)) (Image(x))==1/(x2-1) ((-2.9794841999999997\*10-19 m ΨC cos(μ) sin(ω)+6.02214\*1023 G n hν+2) Image(x)+x (2.97948\*10-19 m ΨC cos(μ) sin(ω)-6.02214\*1023 G n hν-2) Image(x)) when for {∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log((ΒG sin(ω) hν (n π Q δ μ σ)) ρ A) logG(z),0,sin^-1(r)h/22+c8 π2 r2 δ2 θ20}=={∂(DensityMatrix Tr[ψ,{2}])/∂((A ((-1+ψ)/(1+))ρ (-1+A hν n π Q ΒG δ μ ρ σ sin(ω)))/(1+)) logG(z),0,c8 π2 r2 δ2 θ20+1/4 ((r Image)/(1+))h}=={∂(DensityMatrix Tr[ψ,{2}])/∂((A ((-1+ψ)/(1+(-1+ψ)/(2+(-1+ψ)/(3+(2 (-1+ψ))/(2+(2 (-1+ψ))/(5+…))))))ρ (-1+A hν n π Q ΒG δ μ ρ σ sin(ω)))/(1+(-1+A hν n π Q ΒG δ μ ρ σ sin(ω))/(2+(-1+A hν n π Q ΒG δ μ ρ σ sin(ω))/(3+(2 (-1+A hν n π Q ΒG δ μ ρ σ sin(ω)))/(2+(2 (-1+A hν n π Q ΒG δ μ ρ σ sin(ω)))/(5+…)))))) logG(z),0,c8 π2 r2 δ2 θ20+1/4 ((r Image)/(1+-((2 r^2)/(3-(2 r^2)/(5-(12 r^2)/(7-(12 r^2)/(9+…)))))))h} for ((∞+r<=0 or 1+r>0 or r∉ ) and (∞<=r or r<1 or r∉ ) and (ψ∉  or ψ>0 or ∞+ψ<=1) and (not (A hν n Q ΒG δ μ ρ σ sin(ω)∈  and -∞<-1+A hν n π Q ΒG δ μ ρ σ sin(ω)<=-1))) it gives {∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log((ΒG sin(ω) hν (n π Q δ μ σ)) ρ A) logG(z),0,sin^-1(r)h/22+c8 π2 r2 δ2 θ20}=={∂(DensityMatrix Tr[ψ,{2}])/∂A (log(-1+ψ)-)ρ (log(-1+A hν n π Q ΒG δ μ ρ σ sin(ω))-) logG(z),0,1/4 (4 c8 π2 r2 δ2 θ20+sin^-1(r)h)} for (\[LeftBracketingBar]-1+ψ\[RightBracketingBar]>1 and \[LeftBracketingBar]-1+A hν n π Q ΒG δ μ ρ σ sin(ω)\[RightBracketingBar]>1) for ∂(Tr[ψ,{2}] DensityMatrix)/∂logρ(ψ) A log(Βρ A) Image(P Ω r,P δ;ψ ο;γ) Image(x)==∂(DensityMatrix Tr[ψ,{2}])/∂-A () (-)ρ Image(P r Ω,P δ;ο ψ;γ)  for (I 2-1-x E-I c∈  and -1+I 2-1-x E-I c>=0 and \[LeftBracketingBar]-1+ΒA ρ\[RightBracketingBar]<1 and \[LeftBracketingBar]-1+ψ\[RightBracketingBar]<1)

(MasterEquation31b4)

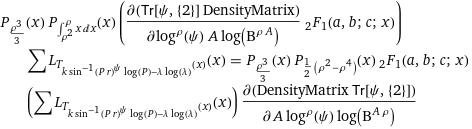
(MasterEquation31b5)

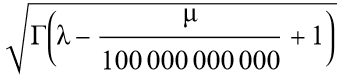
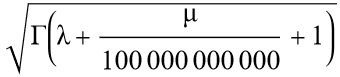
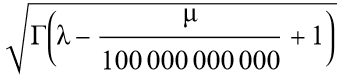
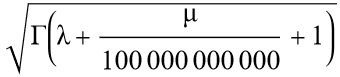
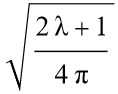
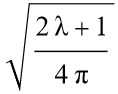
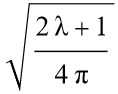
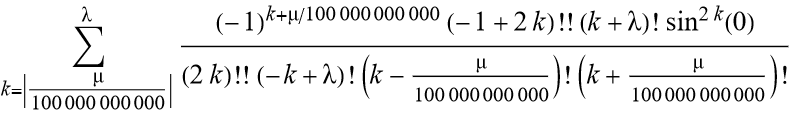
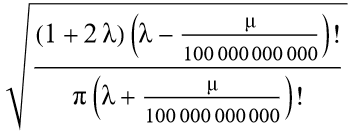
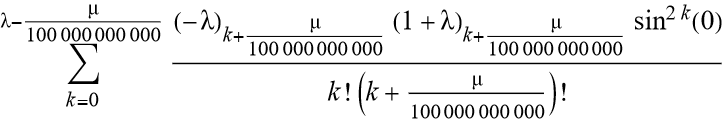
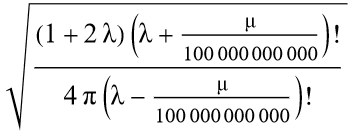
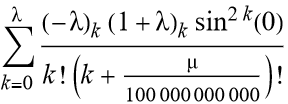
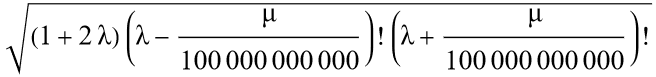
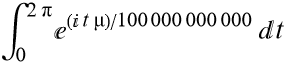
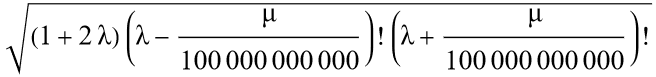
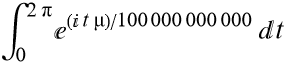
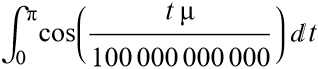
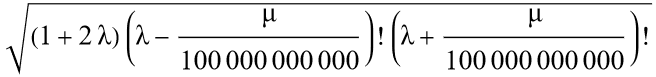
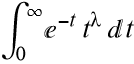
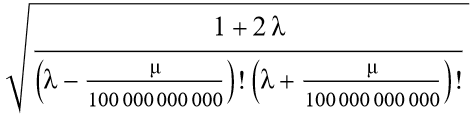
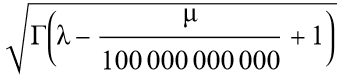
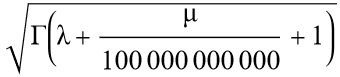
for

(MasterEquation32)

(MasterEquation33)

when ((Image Γ(-((2 ρ3)/3)-1) Γ(-ρ4+ρ2+1) Tr(1,{0})(ψ,{2}))/(Γ(-(ρ^3/3))2 Γ(1/2 (ρ^2-ρ^4)+1)2 x)+(Image (6 ρ11+4 ρ10-12 ρ9+23 ρ8+54 ρ7-50 ρ6-48 ρ5+153 ρ4+36 ρ3-126 ρ2+72) Γ(-((2 ρ3)/3)-1) Γ(-ρ4+ρ2+1) Tr(1,{0})(ψ,{2}))/(3 (2 ρ3+9) (ρ4-ρ2+1) Γ(-(ρ^3/3))2 Γ(1/2 (ρ^2-ρ^4)+1)2 x3)+(Image (36 ρ22+48 ρ21-128 ρ20+288 ρ19+1408 ρ18-864 ρ17-2521 ρ16+10392 ρ15+9368 ρ14-26664 ρ13+6006 ρ12+87216 ρ11-30816 ρ10-130104 ρ9+154719 ρ8+192888 ρ7-239868 ρ6-131760 ρ5+338580 ρ4+64800 ρ3-221616 ρ2+93312) Γ(-((2 ρ3)/3)-1) Γ(-ρ4+ρ2+1) Tr(1,{0})(ψ,{2}))/(9 (2 ρ3+9) (2 ρ3+15) (ρ4-ρ2+1) (ρ4-ρ2+3) Γ(-(ρ^3/3))2 Γ(1/2 (ρ^2-ρ^4)+1)2 x5)+O((1/x)6)) Image+((Image Γ((2 ρ3)/3+1) Γ(-ρ4+ρ2+1) Tr(1,{0})(ψ,{2}))/(Γ(ρ^3/3+1)2 Γ(1/2 (ρ^2-ρ^4)+1)2)+(Image ρ2 (6 ρ9-4 ρ8-12 ρ7-5 ρ6+30 ρ5+14 ρ4-24 ρ3-27 ρ2+12 ρ+18) Γ((2 ρ3)/3+1) Γ(-ρ4+ρ2+1) Tr(1,{0})(ψ,{2}))/(3 (2 ρ3-3) (ρ4-ρ2+1) Γ(ρ^3/3+1)2 Γ(1/2 (ρ^2-ρ^4)+1)2 x2)+(Image (36 ρ22-48 ρ21-128 ρ20-72 ρ19+976 ρ18+192 ρ17-2197 ρ16-3432 ρ15+6344 ρ14+8616 ρ13-6306 ρ12-23832 ρ11+5472 ρ10+33048 ρ9+9459 ρ8-39960 ρ7-19548 ρ6+24624 ρ5+22356 ρ4-7776 ρ3-11664 ρ2) Γ((2 ρ3)/3+1) Γ(-ρ4+ρ2+1) Tr(1,{0})(ψ,{2}))/(9 (2 ρ3-9) (2 ρ3-3) (ρ4-ρ2+1) (ρ4-ρ2+3) Γ(ρ^3/3+1)2 Γ(1/2 (ρ^2-ρ^4)+1)2 x4)+O((1/x)6)) Image+((Image Γ(-((2 ρ3)/3)-1) Γ(ρ4-ρ2-1) Tr(1,{0})(ψ,{2}))/(Γ(-(ρ^3/3))2 Γ(1/2 (ρ^4-ρ^2))2 x2)-(Image (6 ρ11-4 ρ10-12 ρ9+31 ρ8-66 ρ7-42 ρ6+72 ρ5-207 ρ4+156 ρ3+234 ρ2+432) Γ(-((2 ρ3)/3)-1) Γ(ρ4-ρ2-1) Tr(1,{0})(ψ,{2}))/(3 ((2 ρ3+9) (ρ4-ρ2-3) Γ(-(ρ^3/3))2 Γ(1/2 (ρ^4-ρ^2))2) x4)+O((1/x)6)) Image+((Image Γ((2 ρ3)/3+1) Γ(ρ4-ρ2-1) Tr(1,{0})(ψ,{2}))/(Γ(ρ^3/3+1)2 Γ(1/2 (ρ^4-ρ^2))2 x)-(Image (6 ρ11+4 ρ10-12 ρ9-13 ρ8-42 ρ7+6 ρ6+48 ρ5+45 ρ4+84 ρ3-54 ρ2-72) Γ((2 ρ3)/3+1) Γ(ρ4-ρ2-1) Tr(1,{0})(ψ,{2}))/(3 ((2 ρ3-3) (ρ4-ρ2-3) Γ(ρ^3/3+1)2 Γ(1/2 (ρ^4-ρ^2))2) x3)+(Image (36 ρ22+48 ρ21-128 ρ20-360 ρ19-896 ρ18+192 ρ17+3227 ρ16+5256 ρ15+6536 ρ14-10728 ρ13-23250 ρ12-29400 ρ11-16560 ρ10+68712 ρ9+60435 ρ8+91800 ρ7-11196 ρ6-131760 ρ5-63180 ρ4-147744 ρ3+97200 ρ2+93312) Γ((2 ρ3)/3+1) Γ(ρ4-ρ2-1) Tr(1,{0})(ψ,{2}))/(9 (2 ρ3-9) (2 ρ3-3) (ρ4-ρ2-5) (ρ4-ρ2-3) Γ(ρ^3/3+1)2 Γ(1/2 (ρ^4-ρ^2))2 x5)+O((1/x)6) for LegendreP[ρ^3/3, x] LegendreP[Integrate[x, {x, ρ^2, ρ}], x] (D[Tr[ψ, {2}] "DensityMatrix", Log[ψ]^ρ A Log[Β^(ρ A)]] Hypergeometric2F1[a, b, c, x] LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ], x], x]) == (2^(-1 + ρ^3/3 + Integrate[x, {x, ρ^2, ρ}]) D["DensityMatrix" Tr[ψ, {2}], A Log[Β^(A ρ)] Log[ψ]^ρ] Integrate[(1 + E^(-I t))^ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ], x]/E^(E^(I t) x), {t, 0, 2 Pi}] Integrate[(1 + t^2)^(-1 - ρ^3/3) (I t + x)^(ρ^3/3), {t, -Infinity, Infinity}] Integrate[(1 + t^2)^(-1 - Integrate[x, {x, ρ^2, ρ}]) (I t + x)^Integrate[x, {x, ρ^2, ρ}], {t, -Infinity, Infinity}] Integrate[(t^(-1 + b) Hypergeometric1F1[a, c, t x])/E^t, {t, 0, Infinity}])/(Pi^3 Gamma[b]) /; Element[ρ^3/3, Integers] && ρ >= 0 && Element[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ], x], Integers] && ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ], x] >= 0 && Element[Integrate[x, {x, ρ^2, ρ}], Integers] && Integrate[x, {x, ρ^2, ρ}] >= 0 && Re[b] > 0. An alternate derivative is to compose Sum[LaguerreL[ChebyshevT[k ArcSin[P r]^ψ Log[P] - λ Log[λ], x], x], k] D["DensityMatrix" Tr[ψ, {2}], A Log[Β^(A ρ)] Log[ψ]^ρ] Hypergeometric2F1[a, b, c, x] LegendreP[ρ^3/3, x] LegendreP[ρ^2/2 - ρ^4/2, x] ≈(-(2 ((1.26651 - 1.54789 i) j k Γ(3 + P δ) - (1.26651 - 1.54789 i) j^2 k Γ(3 + P δ) - A d k log(Β^(A ρ)) log^ρ(ψ) - A d k ο ψ log(Β^(A ρ)) log^ρ(ψ) - (0.633256 - 0.773943 i) j Root[(-5.06605 + 6.19154 i) j k^3 Β^(A ρ) + (5.06605 - 6.19154 i) j^2 k^3 Β^(A ρ) + 8 A d k^3 sqrt(1 - P^2 r^2) Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + (5.06605 - 6.19154 i) j k^3 Ψ Γ(3 + P δ) log^P(Ψ) - (5.06605 - 6.19154 i) j^2 k^3 Ψ Γ(3 + P δ) log^P(Ψ) - 4 A d k^3 Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) - 4 A d k^3 ο ψ Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) + 4 k^2 sin^ψ(P r) + 4 k^2 ο ψ sin^ψ(P r) - 8 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) sin^ψ(P r) + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) - 4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) - (2.53302 - 3.09577 i) j k^2 Ψ log^P(Ψ) + (2.53302 - 3.09577 i) j^2 k^2 Ψ log^P(Ψ) + 4 k sqrt(1 - P^2 r^2) sin^ψ(P r) + 4 k Γ(3 + P δ) sin^ψ(P r)) #1 + (-2 k sqrt(1 - P^2 r^2) - 2 k Γ(3 + P δ) - 2 sin^ψ(P r)) #1^2 + #1^3&, 3] + (0.633256 - 0.773943 i) j^2 Root[(-5.06605 + 6.19154 i) j k^3 Β^(A ρ) + (5.06605 - 6.19154 i) j^2 k^3 Β^(A ρ) + 8 A d k^3 sqrt(1 - P^2 r^2) Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + (5.06605 - 6.19154 i) j k^3 Ψ Γ(3 + P δ) log^P(Ψ) - (5.06605 - 6.19154 i) j^2 k^3 Ψ Γ(3 + P δ) log^P(Ψ) - 4 A d k^3 Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) - 4 A d k^3 ο ψ Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) + 4 k^2 sin^ψ(P r) + 4 k^2 ο ψ sin^ψ(P r) - 8 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) sin^ψ(P r) + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) - 4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) - (2.53302 - 3.09577 i) j k^2 Ψ log^P(Ψ) + (2.53302 - 3.09577 i) j^2 k^2 Ψ log^P(Ψ) + 4 k sqrt(1 - P^2 r^2) sin^ψ(P r) + 4 k Γ(3 + P δ) sin^ψ(P r)) #1 + (-2 k sqrt(1 - P^2 r^2) - 2 k Γ(3 + P δ) - 2 sin^ψ(P r)) #1^2 + #1^3&, 3]))/((2.53302 - 3.09577 i) j k Β^(A ρ) - (2.53302 - 3.09577 i) j^2 k Β^(A ρ) + Root[(-5.06605 + 6.19154 i) j k^3 Β^(A ρ) + (5.06605 - 6.19154 i) j^2 k^3 Β^(A ρ) + 8 A d k^3 sqrt(1 - P^2 r^2) Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + (5.06605 - 6.19154 i) j k^3 Ψ Γ(3 + P δ) log^P(Ψ) - (5.06605 - 6.19154 i) j^2 k^3 Ψ Γ(3 + P δ) log^P(Ψ) - 4 A d k^3 Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) - 4 A d k^3 ο ψ Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) + 4 k^2 sin^ψ(P r) + 4 k^2 ο ψ sin^ψ(P r) - 8 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) sin^ψ(P r) + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) - 4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) - (2.53302 - 3.09577 i) j k^2 Ψ log^P(Ψ) + (2.53302 - 3.09577 i) j^2 k^2 Ψ log^P(Ψ) + 4 k sqrt(1 - P^2 r^2) sin^ψ(P r) + 4 k Γ(3 + P δ) sin^ψ(P r)) #1 + (-2 k sqrt(1 - P^2 r^2) - 2 k Γ(3 + P δ) - 2 sin^ψ(P r)) #1^2 + #1^3&, 3] + ο ψ Root[(-5.06605 + 6.19154 i) j k^3 Β^(A ρ) + (5.06605 - 6.19154 i) j^2 k^3 Β^(A ρ) + 8 A d k^3 sqrt(1 - P^2 r^2) Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + (5.06605 - 6.19154 i) j k^3 Ψ Γ(3 + P δ) log^P(Ψ) - (5.06605 - 6.19154 i) j^2 k^3 Ψ Γ(3 + P δ) log^P(Ψ) - 4 A d k^3 Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) - 4 A d k^3 ο ψ Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) + 4 k^2 sin^ψ(P r) + 4 k^2 ο ψ sin^ψ(P r) - 8 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) sin^ψ(P r) + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) - 4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) - (2.53302 - 3.09577 i) j k^2 Ψ log^P(Ψ) + (2.53302 - 3.09577 i) j^2 k^2 Ψ log^P(Ψ) + 4 k sqrt(1 - P^2 r^2) sin^ψ(P r) + 4 k Γ(3 + P δ) sin^ψ(P r)) #1 + (-2 k sqrt(1 - P^2 r^2) - 2 k Γ(3 + P δ) - 2 sin^ψ(P r)) #1^2 + #1^3&, 3] - 2 sin^ψ(P r) - 2 ο ψ sin^ψ(P r)), -(4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + 2 k Γ(3 + P δ) Root[(-5.06605 + 6.19154 i) j k^3 Β^(A ρ) + (5.06605 - 6.19154 i) j^2 k^3 Β^(A ρ) + 8 A d k^3 sqrt(1 - P^2 r^2) Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + (5.06605 - 6.19154 i) j k^3 Ψ Γ(3 + P δ) log^P(Ψ) - (5.06605 - 6.19154 i) j^2 k^3 Ψ Γ(3 + P δ) log^P(Ψ) - 4 A d k^3 Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) - 4 A d k^3 ο ψ Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) + 4 k^2 sin^ψ(P r) + 4 k^2 ο ψ sin^ψ(P r) - 8 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) sin^ψ(P r) + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) - 4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) - (2.53302 - 3.09577 i) j k^2 Ψ log^P(Ψ) + (2.53302 - 3.09577 i) j^2 k^2 Ψ log^P(Ψ) + 4 k sqrt(1 - P^2 r^2) sin^ψ(P r) + 4 k Γ(3 + P δ) sin^ψ(P r)) #1 + (-2 k sqrt(1 - P^2 r^2) - 2 k Γ(3 + P δ) - 2 sin^ψ(P r)) #1^2 + #1^3&, 3] - (Root[(-5.06605 + 6.19154 i) j k^3 Β^(A ρ) + (5.06605 - 6.19154 i) j^2 k^3 Β^(A ρ) + 8 A d k^3 sqrt(1 - P^2 r^2) Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + (5.06605 - 6.19154 i) j k^3 Ψ Γ(3 + P δ) log^P(Ψ) - (5.06605 - 6.19154 i) j^2 k^3 Ψ Γ(3 + P δ) log^P(Ψ) - 4 A d k^3 Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) - 4 A d k^3 ο ψ Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) + 4 k^2 sin^ψ(P r) + 4 k^2 ο ψ sin^ψ(P r) - 8 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) sin^ψ(P r) + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) - 4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) - (2.53302 - 3.09577 i) j k^2 Ψ log^P(Ψ) + (2.53302 - 3.09577 i) j^2 k^2 Ψ log^P(Ψ) + 4 k sqrt(1 - P^2 r^2) sin^ψ(P r) + 4 k Γ(3 + P δ) sin^ψ(P r)) #1 + (-2 k sqrt(1 - P^2 r^2) - 2 k Γ(3 + P δ) - 2 sin^ψ(P r)) #1^2 + #1^3&, 3])^2 - 4 k Γ(3 + P δ) sin^ψ(P r) + 2 Root[(-5.06605 + 6.19154 i) j k^3 Β^(A ρ) + (5.06605 - 6.19154 i) j^2 k^3 Β^(A ρ) + 8 A d k^3 sqrt(1 - P^2 r^2) Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + (5.06605 - 6.19154 i) j k^3 Ψ Γ(3 + P δ) log^P(Ψ) - (5.06605 - 6.19154 i) j^2 k^3 Ψ Γ(3 + P δ) log^P(Ψ) - 4 A d k^3 Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) - 4 A d k^3 ο ψ Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) + 4 k^2 sin^ψ(P r) + 4 k^2 ο ψ sin^ψ(P r) - 8 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) sin^ψ(P r) + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) - 4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) - (2.53302 - 3.09577 i) j k^2 Ψ log^P(Ψ) + (2.53302 - 3.09577 i) j^2 k^2 Ψ log^P(Ψ) + 4 k sqrt(1 - P^2 r^2) sin^ψ(P r) + 4 k Γ(3 + P δ) sin^ψ(P r)) #1 + (-2 k sqrt(1 - P^2 r^2) - 2 k Γ(3 + P δ) - 2 sin^ψ(P r)) #1^2 + #1^3&, 3] sin^ψ(P r))/(k ((2.53302 - 3.09577 i) j k Β^(A ρ) - (2.53302 - 3.09577 i) j^2 k Β^(A ρ) + Root[(-5.06605 + 6.19154 i) j k^3 Β^(A ρ) + (5.06605 - 6.19154 i) j^2 k^3 Β^(A ρ) + 8 A d k^3 sqrt(1 - P^2 r^2) Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + (5.06605 - 6.19154 i) j k^3 Ψ Γ(3 + P δ) log^P(Ψ) - (5.06605 - 6.19154 i) j^2 k^3 Ψ Γ(3 + P δ) log^P(Ψ) - 4 A d k^3 Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) - 4 A d k^3 ο ψ Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) + 4 k^2 sin^ψ(P r) + 4 k^2 ο ψ sin^ψ(P r) - 8 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) sin^ψ(P r) + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) - 4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) - (2.53302 - 3.09577 i) j k^2 Ψ log^P(Ψ) + (2.53302 - 3.09577 i) j^2 k^2 Ψ log^P(Ψ) + 4 k sqrt(1 - P^2 r^2) sin^ψ(P r) + 4 k Γ(3 + P δ) sin^ψ(P r)) #1 + (-2 k sqrt(1 - P^2 r^2) - 2 k Γ(3 + P δ) - 2 sin^ψ(P r)) #1^2 + #1^3&, 3] + ο ψ Root[(-5.06605 + 6.19154 i) j k^3 Β^(A ρ) + (5.06605 - 6.19154 i) j^2 k^3 Β^(A ρ) + 8 A d k^3 sqrt(1 - P^2 r^2) Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) + (5.06605 - 6.19154 i) j k^3 Ψ Γ(3 + P δ) log^P(Ψ) - (5.06605 - 6.19154 i) j^2 k^3 Ψ Γ(3 + P δ) log^P(Ψ) - 4 A d k^3 Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) - 4 A d k^3 ο ψ Ψ log(Β^(A ρ)) log^ρ(ψ) log^P(Ψ) + 4 k^2 sin^ψ(P r) + 4 k^2 ο ψ sin^ψ(P r) - 8 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) sin^ψ(P r) + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 sqrt(1 - P^2 r^2) Γ(3 + P δ) - 4 A d k^2 Β^(A ρ) log(Β^(A ρ)) log^ρ(ψ) - (2.53302 - 3.09577 i) j k^2 Ψ log^P(Ψ) + (2.53302 - 3.09577 i) j^2 k^2 Ψ log^P(Ψ) + 4 k sqrt(1 - P^2 r^2) sin^ψ(P r) + 4 k Γ(3 + P δ) sin^ψ(P r)) #1 + (-2 k sqrt(1 - P^2 r^2) - 2 k Γ(3 + P δ) - 2 sin^ψ(P r)) #1^2 + #1^3&, 3] - 2 sin^ψ(P r) - 2 ο ψ sin^ψ(P r))), 1) for unentangled qubits that becomes progressively peaked at ϕ for increasing Image(x) Image(x) ∂Tr[ψ,{2}]/∂ψ==Image(x) Image(x) Tr(1,{0})(ψ,{2})Image(x) (x) Tr(1,{0})(ψ,{2})Image(x) Image(x)\*∂Tr[ψ,{2}]/∂ψ(π Tr(1,{0})(ψ,{2}))/(Γ(1/2-ρ3/6) Γ(ρ3/6+1) Γ(-(ρ4/4)+ρ2/4+1) Γ(ρ4/4-ρ2/4+1/2))+x ((π (ρ3+3) ρ3)/(18 Γ(1-ρ3/6) Γ(ρ3/6+3/2) Γ(-(ρ4/4)+ρ2/4+1) Γ(ρ4/4-ρ2/4+1/2))+(π (ρ4-ρ2-2) (ρ4-ρ2))/(8 Γ(1/2-ρ3/6) Γ(ρ3/6+1) Γ(-(ρ4/4)+ρ2/4+3/2) Γ(ρ4/4-ρ2/4+1))) Tr(1,{0})(ψ,{2})+x2 ((π (ρ3-3) (ρ3+3) (ρ3+6) ρ3)/(648 Γ(3/2-ρ3/6) Γ(ρ3/6+2) Γ(-(ρ4/4)+ρ2/4+1) Γ(ρ4/4-ρ2/4+1/2))+(π (ρ3+3) (ρ4-ρ2-2) (ρ4-ρ2) ρ3)/(144 Γ(1-ρ3/6) Γ(ρ3/6+3/2) Γ(-(ρ4/4)+ρ2/4+3/2) Γ(ρ4/4-ρ2/4+1))+(π (ρ4-ρ2-4) (ρ4-ρ2-2) (ρ4-ρ2) (ρ4-ρ2+2))/(128 Γ(1/2-ρ3/6) Γ(ρ3/6+1) Γ(-(ρ4/4)+ρ2/4+2) Γ(ρ4/4-ρ2/4+3/2))) Tr(1,{0})(ψ,{2})+x3 ((π (ρ3-6) (ρ3-3) (ρ3+3) (ρ3+6) (ρ3+9) ρ3)/(34992 Γ(2-ρ3/6) Γ(ρ3/6+5/2) Γ(-(ρ4/4)+ρ2/4+1) Γ(ρ4/4-ρ2/4+1/2))+(π (ρ3-3) (ρ3+3) (ρ3+6) (ρ4-ρ2-2) (ρ4-ρ2) ρ3)/(5184 Γ(3/2-ρ3/6) Γ(ρ3/6+2) Γ(-(ρ4/4)+ρ2/4+3/2) Γ(ρ4/4-ρ2/4+1))+(π (ρ3+3) (ρ4-ρ2-4) (ρ4-ρ2-2) (ρ4-ρ2) (ρ4-ρ2+2) ρ3)/(2304 Γ(1-ρ3/6) Γ(ρ3/6+3/2) Γ(-(ρ4/4)+ρ2/4+2) Γ(ρ4/4-ρ2/4+3/2))+(π (ρ4-ρ2-6) (ρ4-ρ2-4) (ρ4-ρ2-2) (ρ4-ρ2) (ρ4-ρ2+2) (ρ4-ρ2+4))/(3072 Γ(1/2-ρ3/6) Γ(ρ3/6+1) Γ(-(ρ4/4)+ρ2/4+5/2) Γ(ρ4/4-ρ2/4+2))) Tr(1,{0})(ψ,{2})+x4 ((π (ρ3-9) (ρ3-6) (ρ3-3) (ρ3+3) (ρ3+6) (ρ3+9) (ρ3+12) ρ3)/(2519424 Γ(5/2-ρ3/6) Γ(ρ3/6+3) Γ(-(ρ4/4)+ρ2/4+1) Γ(ρ4/4-ρ2/4+1/2))+(π (ρ3-6) (ρ3-3) (ρ3+3) (ρ3+6) (ρ3+9) (ρ4-ρ2-2) (ρ4-ρ2) ρ3)/(279936 Γ(2-ρ3/6) Γ(ρ3/6+5/2) Γ(-(ρ4/4)+ρ2/4+3/2) Γ(ρ4/4-ρ2/4+1))+(π (ρ3-3) (ρ3+3) (ρ3+6) (ρ4-ρ2-4) (ρ4-ρ2-2) (ρ4-ρ2) (ρ4-ρ2+2) ρ3)/(82944 Γ(3/2-ρ3/6) Γ(ρ3/6+2) Γ(-(ρ4/4)+ρ2/4+2) Γ(ρ4/4-ρ2/4+3/2))+(π (ρ3+3) (ρ4-ρ2-6) (ρ4-ρ2-4) (ρ4-ρ2-2) (ρ4-ρ2) (ρ4-ρ2+2) (ρ4-ρ2+4) ρ3)/(55296 Γ(1-ρ3/6) Γ(ρ3/6+3/2) Γ(-(ρ4/4)+ρ2/4+5/2) Γ(ρ4/4-ρ2/4+2))+(π (ρ4-ρ2-8) (ρ4-ρ2-6) (ρ4-ρ2-4) (ρ4-ρ2-2) (ρ4-ρ2) (ρ4-ρ2+2) (ρ4-ρ2+4) (ρ4-ρ2+6))/(98304 Γ(1/2-ρ3/6) Γ(ρ3/6+1) Γ(-(ρ4/4)+ρ2/4+3) Γ(ρ4/4-ρ2/4+5/2))) Tr(1,{0})(ψ,{2})+O(x5) entanglement for

(MasterEquation34)

A similar argument shows that if we measure ρ in the orthonormal basis P\_(ρ^3/3)(x) P\_( integral\_(ρ^2)^ρ x dx)(x) ((d(Tr[ψ, {2}] DensityMatrix))/(dlog^ρ(ψ) A log(Β^(ρ A))) 2F1(a, b, c, x)) sum L\_T\_(k sin^(-1)(P r)^ψ log(P) - λ log(λ))(x)(x) = P\_(ρ^3/3)(x) P\_(1/2 (ρ^2 - ρ^4))(x) 2F1(a, b, c, x) ( sum L\_T\_(k sin^(-1)(P r)^ψ log(P) - λ log(λ))(x)(x)) (d(DensityMatrix Tr[ψ, {2}]))/(dA log^ρ(ψ) log(Β^(A ρ))) when v= {(-2 (-2 (-1)^E j k Gamma[3 + P δ] + 2 (-1)^E j^2 k Gamma[3 + P δ] - A d k Log[Β^(A ρ)] Log[ψ]^ρ - A d k ο ψ Log[Β^(A ρ)] Log[ψ]^ρ + (-1)^E j Root[8 (-1)^E j k^3 Β^(A ρ) - 8 (-1)^E j^2 k^3 Β^(A ρ) + 8 A d k^3 Sqrt[1 - P^2 r^2] Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ - 8 (-1)^E j k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P + 8 (-1)^E j^2 k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P - 4 A d k^3 Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P - 4 A d k^3 ο ψ Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P + 4 k^2 Sin[P r]^ψ + 4 k^2 ο ψ Sin[P r]^ψ - 8 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] Sin[P r]^ψ + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] - 4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 4 (-1)^E j k^2 Ψ Log[Ψ]^P - 4 (-1)^E j^2 k^2 Ψ Log[Ψ]^P + 4 k Sqrt[1 - P^2 r^2] Sin[P r]^ψ + 4 k Gamma[3 + P δ] Sin[P r]^ψ) #1 + (-2 k Sqrt[1 - P^2 r^2] - 2 k Gamma[3 + P δ] - 2 Sin[P r]^ψ) #1^2 + #1^3 & , 1] + (-1)^(1 + E) j^2 Root[8 (-1)^E j k^3 Β^(A ρ) - 8 (-1)^E j^2 k^3 Β^(A ρ) + 8 A d k^3 Sqrt[1 - P^2 r^2] Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ - 8 (-1)^E j k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P + 8 (-1)^E j^2 k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P - 4 A d k^3 Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P - 4 A d k^3 ο ψ Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P + 4 k^2 Sin[P r]^ψ + 4 k^2 ο ψ Sin[P r]^ψ - 8 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] Sin[P r]^ψ + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] - 4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 4 (-1)^E j k^2 Ψ Log[Ψ]^P - 4 (-1)^E j^2 k^2 Ψ Log[Ψ]^P + 4 k Sqrt[1 - P^2 r^2] Sin[P r]^ψ + 4 k Gamma[3 + P δ] Sin[P r]^ψ) #1 + (-2 k Sqrt[1 - P^2 r^2] - 2 k Gamma[3 + P δ] - 2 Sin[P r]^ψ) #1^2 + #1^3 & , 1]))/(-4 (-1)^E j k Β^(A ρ) + 4 (-1)^E j^2 k Β^(A ρ) + Root[8 (-1)^E j k^3 Β^(A ρ) - 8 (-1)^E j^2 k^3 Β^(A ρ) + 8 A d k^3 Sqrt[1 - P^2 r^2] Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ - 8 (-1)^E j k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P + 8 (-1)^E j^2 k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P - 4 A d k^3 Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P - 4 A d k^3 ο ψ Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P + 4 k^2 Sin[P r]^ψ + 4 k^2 ο ψ Sin[P r]^ψ - 8 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] Sin[P r]^ψ + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] - 4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 4 (-1)^E j k^2 Ψ Log[Ψ]^P - 4 (-1)^E j^2 k^2 Ψ Log[Ψ]^P + 4 k Sqrt[1 - P^2 r^2] Sin[P r]^ψ + 4 k Gamma[3 + P δ] Sin[P r]^ψ) #1 + (-2 k Sqrt[1 - P^2 r^2] - 2 k Gamma[3 + P δ] - 2 Sin[P r]^ψ) #1^2 + #1^3 & , 1] + ο ψ Root[8 (-1)^E j k^3 Β^(A ρ) - 8 (-1)^E j^2 k^3 Β^(A ρ) + 8 A d k^3 Sqrt[1 - P^2 r^2] Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ - 8 (-1)^E j k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P + 8 (-1)^E j^2 k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P - 4 A d k^3 Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P - 4 A d k^3 ο ψ Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P + 4 k^2 Sin[P r]^ψ + 4 k^2 ο ψ Sin[P r]^ψ - 8 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] Sin[P r]^ψ + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] - 4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 4 (-1)^E j k^2 Ψ Log[Ψ]^P - 4 (-1)^E j^2 k^2 Ψ Log[Ψ]^P + 4 k Sqrt[1 - P^2 r^2] Sin[P r]^ψ + 4 k Gamma[3 + P δ] Sin[P r]^ψ) #1 + (-2 k Sqrt[1 - P^2 r^2] - 2 k Gamma[3 + P δ] - 2 Sin[P r]^ψ) #1^2 + #1^3 & , 1] - 2 Sin[P r]^ψ - 2 ο ψ Sin[P r]^ψ), -((4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 2 k Gamma[3 + P δ] Root[8 (-1)^E j k^3 Β^(A ρ) - 8 (-1)^E j^2 k^3 Β^(A ρ) + 8 A d k^3 Sqrt[1 - P^2 r^2] Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ - 8 (-1)^E j k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P + 8 (-1)^E j^2 k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P - 4 A d k^3 Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P - 4 A d k^3 ο ψ Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P + 4 k^2 Sin[P r]^ψ + 4 k^2 ο ψ Sin[P r]^ψ - 8 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] Sin[P r]^ψ + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] - 4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 4 (-1)^E j k^2 Ψ Log[Ψ]^P - 4 (-1)^E j^2 k^2 Ψ Log[Ψ]^P + 4 k Sqrt[1 - P^2 r^2] Sin[P r]^ψ + 4 k Gamma[3 + P δ] Sin[P r]^ψ) #1 + (-2 k Sqrt[1 - P^2 r^2] - 2 k Gamma[3 + P δ] - 2 Sin[P r]^ψ) #1^2 + #1^3 & , 1] - Root[8 (-1)^E j k^3 Β^(A ρ) - 8 (-1)^E j^2 k^3 Β^(A ρ) + 8 A d k^3 Sqrt[1 - P^2 r^2] Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ - 8 (-1)^E j k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P + 8 (-1)^E j^2 k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P - 4 A d k^3 Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P - 4 A d k^3 ο ψ Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P + 4 k^2 Sin[P r]^ψ + 4 k^2 ο ψ Sin[P r]^ψ - 8 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] Sin[P r]^ψ + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] - 4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 4 (-1)^E j k^2 Ψ Log[Ψ]^P - 4 (-1)^E j^2 k^2 Ψ Log[Ψ]^P + 4 k Sqrt[1 - P^2 r^2] Sin[P r]^ψ + 4 k Gamma[3 + P δ] Sin[P r]^ψ) #1 + (-2 k Sqrt[1 - P^2 r^2] - 2 k Gamma[3 + P δ] - 2 Sin[P r]^ψ) #1^2 + #1^3 & , 1]^2 - 4 k Gamma[3 + P δ] Sin[P r]^ψ + 2 Root[8 (-1)^E j k^3 Β^(A ρ) - 8 (-1)^E j^2 k^3 Β^(A ρ) + 8 A d k^3 Sqrt[1 - P^2 r^2] Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ - 8 (-1)^E j k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P + 8 (-1)^E j^2 k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P - 4 A d k^3 Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P - 4 A d k^3 ο ψ Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P + 4 k^2 Sin[P r]^ψ + 4 k^2 ο ψ Sin[P r]^ψ - 8 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] Sin[P r]^ψ + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] - 4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 4 (-1)^E j k^2 Ψ Log[Ψ]^P - 4 (-1)^E j^2 k^2 Ψ Log[Ψ]^P + 4 k Sqrt[1 - P^2 r^2] Sin[P r]^ψ + 4 k Gamma[3 + P δ] Sin[P r]^ψ) #1 + (-2 k Sqrt[1 - P^2 r^2] - 2 k Gamma[3 + P δ] - 2 Sin[P r]^ψ) #1^2 + #1^3 & , 1] Sin[P r]^ψ)/(k (-4 (-1)^E j k Β^(A ρ) + 4 (-1)^E j^2 k Β^(A ρ) + Root[8 (-1)^E j k^3 Β^(A ρ) - 8 (-1)^E j^2 k^3 Β^(A ρ) + 8 A d k^3 Sqrt[1 - P^2 r^2] Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ - 8 (-1)^E j k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P + 8 (-1)^E j^2 k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P - 4 A d k^3 Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P - 4 A d k^3 ο ψ Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P + 4 k^2 Sin[P r]^ψ + 4 k^2 ο ψ Sin[P r]^ψ - 8 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] Sin[P r]^ψ + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] - 4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 4 (-1)^E j k^2 Ψ Log[Ψ]^P - 4 (-1)^E j^2 k^2 Ψ Log[Ψ]^P + 4 k Sqrt[1 - P^2 r^2] Sin[P r]^ψ + 4 k Gamma[3 + P δ] Sin[P r]^ψ) #1 + (-2 k Sqrt[1 - P^2 r^2] - 2 k Gamma[3 + P δ] - 2 Sin[P r]^ψ) #1^2 + #1^3 & , 1] + ο ψ Root[8 (-1)^E j k^3 Β^(A ρ) - 8 (-1)^E j^2 k^3 Β^(A ρ) + 8 A d k^3 Sqrt[1 - P^2 r^2] Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ - 8 (-1)^E j k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P + 8 (-1)^E j^2 k^3 Ψ Gamma[3 + P δ] Log[Ψ]^P - 4 A d k^3 Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P - 4 A d k^3 ο ψ Ψ Log[Β^(A ρ)] Log[ψ]^ρ Log[Ψ]^P + 4 k^2 Sin[P r]^ψ + 4 k^2 ο ψ Sin[P r]^ψ - 8 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] Sin[P r]^ψ + (-2 k^2 - 2 k^2 ο ψ + 4 k^2 Sqrt[1 - P^2 r^2] Gamma[3 + P δ] - 4 A d k^2 Β^(A ρ) Log[Β^(A ρ)] Log[ψ]^ρ + 4 (-1)^E j k^2 Ψ Log[Ψ]^P - 4 (-1)^E j^2 k^2 Ψ Log[Ψ]^P + 4 k Sqrt[1 - P^2 r^2] Sin[P r]^ψ + 4 k Gamma[3 + P δ] Sin[P r]^ψ) #1 + (-2 k Sqrt[1 - P^2 r^2] - 2 k Gamma[3 + P δ] - 2 Sin[P r]^ψ) #1^2 + #1^3 & , 1] - 2 Sin[P r]^ψ - 2 ο ψ Sin[P r]^ψ))), 1} for (Image Image) Tn(x) Cn(x)(2 Subscript[T, n](x)2 Image Image)/n(Image 0-μ/200000000000 E(I μ ϕ)/100000000000  cos2(n cos-1(x)) Image)/(Image n Γ(1-μ/100000000000) )(Image 2n+1 cos2((π n)/2) Γ(m+n/2) Image)/(n Γ(m) Γ((1-n)/2) Γ(n+1))+1/n 2 x ((Image 2n cos2((π n)/2) Γ(m+(n+1)/2))/(Γ(m) Γ(1-n/2) Γ(n))+(Image 2n+1 n sin((π n)/2) cos((π n)/2) Γ(m+n/2))/(Γ(m) Γ((1-n)/2) Γ(n+1))) Image+(Image 2n x2 (-2 m cos2((π n)/2) Γ(1-n/2) Γ(n) Γ(m+n/2)-3 n cos2((π n)/2) Γ(1-n/2) Γ(n) Γ(m+n/2)+2 n sin2((π n)/2) Γ(1-n/2) Γ(n) Γ(m+n/2)+4 sin((π n)/2) cos((π n)/2) Γ((1-n)/2) Γ(n+1) Γ(m+(n+1)/2)) Image)/(Γ(m) Γ((1-n)/2) Γ(1-n/2) Γ(n) Γ(n+1))+1/n 2 x3 ((Image 2n Γ(m+n/2) (n3 sin((π n)/2) (-cos((π n)/2))-1/3 (n-1) (n+1) n sin((π n)/2) cos((π n)/2)))/(Γ(m) Γ((1-n)/2) Γ(n+1))+(Image 2n Γ(m+(n+1)/2) (n2 sin2((π n)/2)-n2 cos2((π n)/2)))/(Γ(m) Γ(1-n/2) Γ(n))-(Image 2n n2 (2 m+n) sin((π n)/2) cos((π n)/2) Γ(m+n/2))/(Γ(m) Γ((1-n)/2) Γ(n+1))-(Image 2n-1 (n-1) (2 m+n+1) cos2((π n)/2) Γ(m+(n+1)/2))/(3 Γ(m) Γ(1-n/2) Γ(n))) Image+1/n 2 x4 ((Image 2n Γ(m+(n+1)/2) (n3 sin((π n)/2) (-cos((π n)/2))-1/3 (n-1) (n+1) n sin((π n)/2) cos((π n)/2)))/(Γ(m) Γ(1-n/2) Γ(n))-(Image 2n-1 n (2 m+n) Γ(m+n/2) (n2 sin2((π n)/2)-n2 cos2((π n)/2)))/(Γ(m) Γ((1-n)/2) Γ(n+1))+(Image 2n Γ(m+n/2) (1/4 n4 cos2((π n)/2)-1/3 (n-1) (n+1) n2 sin2((π n)/2)+1/12 (n-2) (n+2) n2 cos2((π n)/2)))/(Γ(m) Γ((1-n)/2) Γ(n+1))+(Image 2n-3 (n-2) n (2 m+n) (2 m+n+2) cos2((π n)/2) Γ(m+n/2))/(3 Γ(m) Γ((1-n)/2) Γ(n+1))-(Image 2n (n-1) n (2 m+n+1) sin((π n)/2) cos((π n)/2) Γ(m+(n+1)/2))/(3 Γ(m) Γ(1-n/2) Γ(n))) Image+O(x5)(∂/(∂ x)) ((Image Image) Tn(x) Cn(x))==(4 Tn(x) Image (m Tn(x) Image+n Un-1(x) Image))/nImage(Image 0-μ/200000000000 E(I μ ϕ)/100000000000 )/(2 Image Γ(1-μ/100000000000) )Image+λ SphericalHarmonicY(1,0,0,0)(0,μ/100000000000,0,ϕ)+1/2 λ2 SphericalHarmonicY(2,0,0,0)(0,μ/100000000000,0,ϕ)+1/6 λ3 SphericalHarmonicY(3,0,0,0)(0,μ/100000000000,0,ϕ)+1/24 λ4 SphericalHarmonicY(4,0,0,0)(0,μ/100000000000,0,ϕ)+O(λ5)Image== WignerD[λ,0,-(μ/100000000000),0,0,ϕ] for (λ∈  and μ/100000000000∈ )Image==(-1)μ/100000000000  WignerD[λ,-(μ/100000000000),0,ϕ,0,0] for (λ∈  and μ/100000000000∈ )Image== WignerD[λ,μ/100000000000,0,ϕ,0,0] \* for (λ∈  and μ/100000000000∈ )Image==((1+2 λ) )/(4 π Image) for (λ∈  and λ>=0 and μ/100000000000∈  and \[LeftBracketingBar]μ\[RightBracketingBar]<=100000000000 λ)Image==2-1-μ/100000000000 E(I μ ϕ)/100000000000 sin^2(0)μ/200000000000   for (λ∈  and λ>=0 and μ/100000000000∈  and \[LeftBracketingBar]μ\[RightBracketingBar]<=100000000000 λ)Image==(-1)μ/100000000000 E(I μ ϕ)/100000000000 sin-μ/100000000000(0) sin^2(0)μ/200000000000  () tanμ/100000000000(0) for (λ∈  and λ>=0 and μ/100000000000∈  and \[LeftBracketingBar]μ\[RightBracketingBar]<=100000000000 λ)Image==((-1)-(3 μ)/200000000000 )/(4 π3/2 λ!)  for (λ∈  and λ>=0 and μ/100000000000∈  and -λ<=μ/100000000000<=λ)Image==((-1)μ/200000000000 )/(4 π3/2 λ!)  for (λ∈  and λ>=0 and μ/100000000000∈  and \[LeftBracketingBar]μ\[RightBracketingBar]<=100000000000 λ)Image==(1/(2 π3/2 λ!))(-1)μ/200000000000 E(I μ ϕ)/100000000000  for (λ∈  and λ>=0 and μ/100000000000∈  and \[LeftBracketingBar]μ\[RightBracketingBar]<=100000000000 λ)Image==1/(2 Image) (-1)μ/100000000000 E(I μ ϕ)/100000000000 Image(0)  for (λ∈  and λ>=0 and μ/100000000000∈  and \[LeftBracketingBar]μ\[RightBracketingBar]<=100000000000 λ)\[Integral]Image(x) Imagex==(Image (Image(x)-Image(x)))/(2 π δ F G μ n Q2 σ T hν log(sin(ω))+5)+ constant(∂/(∂ x)) (Image(x) Image)==-(1/(x2-1))Image (π δ F G μ n Q2 σ T hν log(sin(ω))+3) (x Image(x)-Image(x))(Image 0-μ/200000000000 E(I μ ϕ)/100000000000  Image(x))/(2 Image Γ(1-μ/100000000000) )Image Image(x)Image Image(x)Image(x) Image\[Integral]Image(x)x==(Image(x)-Image(x))/(2 π δ F G μ n Q2 σ T hν log(sin(ω))+5)+ constant measurement and unitary evolution can explain the different signs of that states and observables that are dual to each other and unify the probabilistic and quantum pictures of states? I also then discuss here, the most fundamental frustration that appears to be central to evolution is caused by EVOLUTION Vanchurin et al. Thermodynamics of evolution and the origin of life PNAS j5 of 10 <https://doi.org/10.1073/pnas.2120042119> the competing trends of the conventional thermodynamic entropy growth and entropy decrease due to learning. Our out-of-the-box approach introduced here by these approximations lead to false-positive hits that ideally can at least in part be removed by subsequent refinement of the best ranking molecules and binding poses with more sophisticated methods involving iterative docking and clustering of ligand poses that synergistically combines the best of two worlds transferability of QM and high accuracy of AI approaches including the Euclidean group, the special Euclidean group, and the permutation group in a 3D coordinate system into the aforementioned QFTT molecular systems for these Quantum-mechanical-mimicking structured chemical biosystems following the nature of the active ingredient in ultramolecular dilutions that correspond to QFFFT Quantum network-like Functions ((Supplement Material) FUNCTIONS1, (Supplement Material) FUNCTIONS2), (〈(SUPPLEMENT MATERIAL) FUNCTIONS.1-26〉) of r that goes to zero faster than r itself. [10-195] So for these rotations and SB-vHTS graph translations (Ics.3a,3b,3c) the key steps are as follows: (1) preparation of the target protein and compound library for docking, (2) determining a favorable binding pose for each compound, and (3) ranking the docked structures that covers reflections from the Roccustyrna’s ligand total free energy negative reductions since there are no singularities to deal with at all especially when designing these “Stealth Fuzzy Shaped Drug Designs” that are interacting with negative binding free energie s with less serious side effects (SI Appendix II SwissADME), and microblack hole negative docking energy properties. This quantum interpretation ‘mechanism’ which permits this direct transfer of information is a Quantum Homeopathy Entanglement and is completely different to any drug designing system developed so far. [2-60,62-81,113-184] These quantum entangled drug designing systems rescore predicted poses several times using different scoring functions and are more strongly coupled than classical consensus-scoring functions and drug designing systems, and together have well-defined informational characteristics combining scores and including (1) weighted combinations of scoring functions, (2) a voting strategy in which cutoffs established for each scoring method followed by decision based on number of passes a molecule has, (3) a rank by number strategy that ranks each compound by its average normalized score values, and (4) a rank by rank method that sorts compounds based on average rank determined by individual scoring functions. However, these individual Quantum Homeopathy Systems may be completely random without any information content. [2-50,62-184] Successful quantum teleportation means that this new teleported system becomes completely identical with the original, which by necessity has to disappear emphasizing to the entropy and enthalpy change in the process of protein folding which are the key factors that drive protein folding in order to achieve improved accuracies through a combination of advantages of basic scoring functions. In ‘classical’ information theory, the elementary quantity of information is the bit that can have one of two values, e.g. 0 or 1. There is no parallel in classical information theory. [45-186] Far from superposition that leading to a loss of information, these Quantum Homeopathy Technologies offers a completely different way of encoding information and can then be combined in different ways to rank solutions, evaluate consensus scoring strategie, and investigate the parameters of properly combined rescoring strategies onto two or more qubits which actually uses the entangled superposition of states. With respect to applications, much like improvements in training landscapes, QFT to QM reductions in quantum potentization generalization error (despite having broad relevance) may alone be sufficient to provide a practical quantum advantage in scoring functions whose strengths are distinguishing actives from inactive compounds that are complemented by scoring functions and can distinguish correct from incorrect binding poses. [23-69,70-194] However, we still lack a “Folding Turing Machine for an applied Quantum Homeopathy Mechanism” to explain how the time evolution of a Turing Learning Machine for Quantum Homeopathy Folding Development could lead us to rapidly and accurately assess protein-ligand complexes, i.e., approximate the energy of the interaction. These Quantum Chaos Solution conditions led me to an ligand docking experiment that may have generated hundreds of thousands of target-ligand complex conformations, and an efficient scoring function which is necessary to rank these complexes and differentiate valid binding mode predictions from invalid predictions and thermodynamic values, and clinical data. [2-70,92-194] The core of this Turing Machine Learning Quantum Homeopathy protein-ligand folding problem is to crack the folding mechanism demonstrating the detail steps in the protein folding processes of secondary, tertiary and quaternary structures which strictly conforms to the Negative Gibbs free energy equation in the local space of the Quantum Homeopathy solution conditions where the formation of H-bonds in the protein-folding processes satisfies the entropy-enthalpy compensation requirements for the spontaneous reaction in the local space of the ultra low homeopathy conditions. [28-194] These reductions in sample complexity may allow these Turing Learning Machine of robust Turing Machine learning models from fewer examples noting that it is possible to use different modes of reconstructing entanglement in a Turing Machine Learning Quantum Homeopathy System (TMLQHS) where it might also be possible by translating the consciousness of the persons active during the homeopathy production and application process into druggable and hypergeometric scaffoldings proving that these combining scoring functions that have complementary strengths may leads to better results over those that have consensus in their predictions. More specifically, as argued in these qHomeopathy-oriented SB-vHTS experiment which has never been used before in identifying novel and potent hits in several drug discovery campaigns, scale separation is considered to be a prerequisite for the origin of Quantum Homeopathy Fields when [18-151] combined with quantum thermodynamics of learning [17-152], and with the theory of similar [18-153], in an attempt to construct a formal framework for a phenomenological description of an revolutionized druggable scaffold that is capable of interacting solely with negative docking energies against AT1R binding domains.