

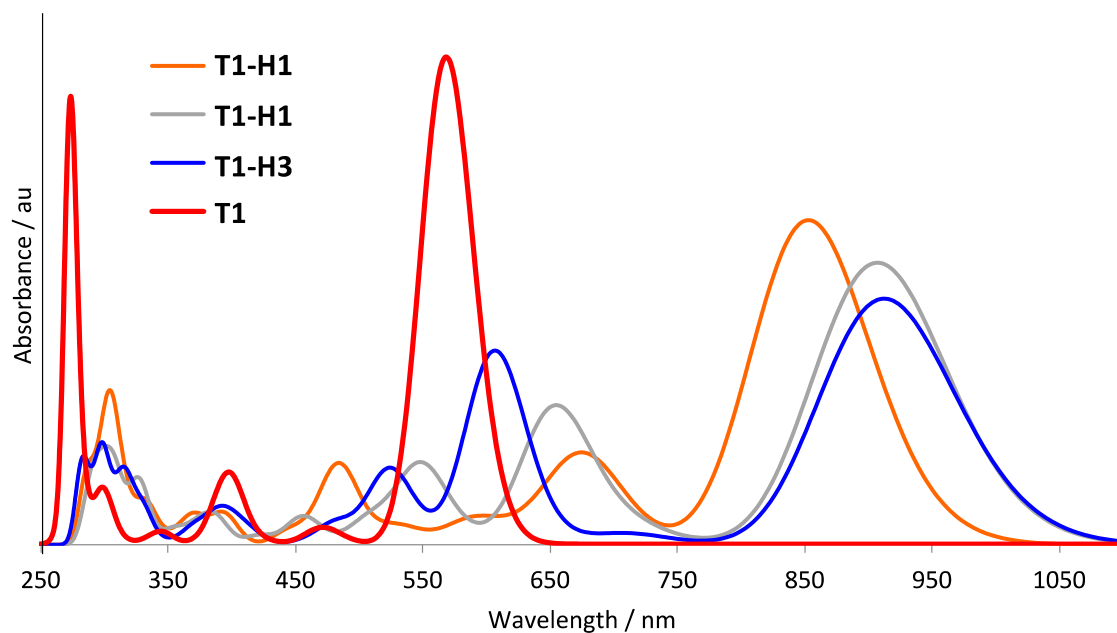
**Supplementary Information**

**Protic Processes in an Extended Pyrazinacene: The Case of  
Dihydrotetradecaazaheptacene**

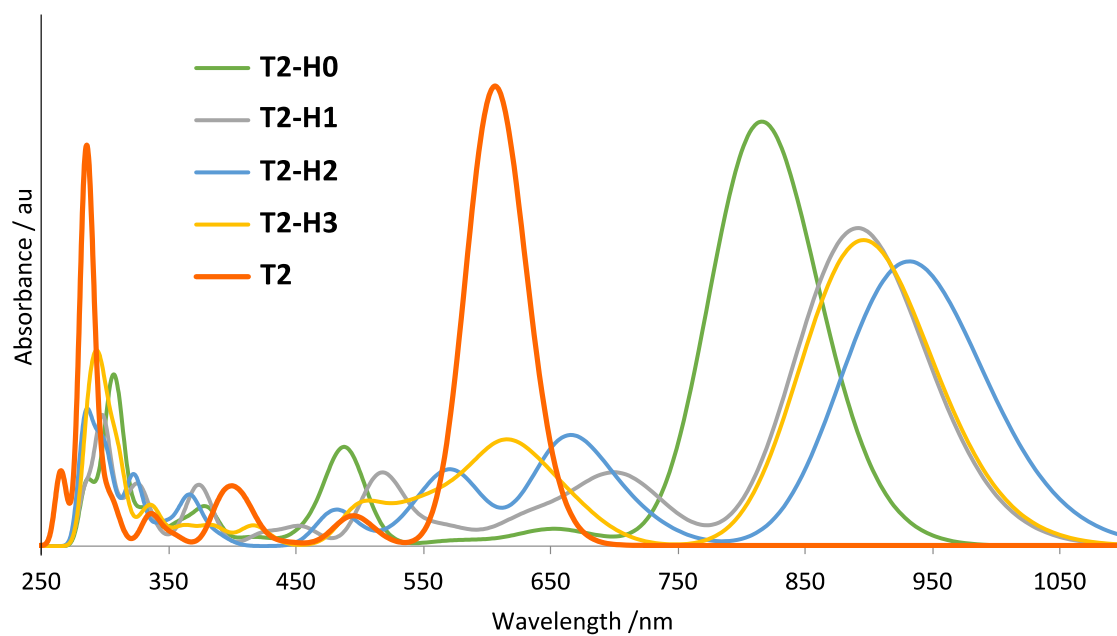
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**Table S1.** Bond length averages for optimised structures.

| Average<br>bond<br>length (Å) |           |                    |        |       |
|-------------------------------|-----------|--------------------|--------|-------|
| Tautomer                      | Acene C-C | Outer<br>Acene C-C | Ph C-C | C-N   |
| <b>T0</b>                     | 1.448     | 1.484              | 1.393  | 1.337 |
| <b>T1</b>                     | 1.449     | 1.484              | 1.393  | 1.337 |
| <b>T2</b>                     | 1.453     | 1.485              | 1.396  | 1.341 |
| <b>T3</b>                     | 1.452     | 1.480              | 1.393  | 1.339 |
| <b>T0-H0</b>                  | 1.450     | 1.472              | 1.393  | 1.343 |
| <b>T0-H1</b>                  | 1.449     | 1.474              | 1.393  | 1.338 |
| <b>T0-H2</b>                  | 1.449     | 1.474              | 1.394  | 1.337 |
| <b>T0-H3</b>                  | 1.449     | 1.475              | 1.393  | 1.337 |
| <b>T1-H0</b>                  | 1.449     | 1.474              | 1.393  | 1.338 |
| <b>T1-H1</b>                  | 1.449     | 1.474              | 1.394  | 1.336 |
| <b>T1-H2</b>                  | 1.449     | 1.474              | 1.393  | 1.336 |
| <b>T1-H3</b>                  | 1.449     | 1.475              | 1.393  | 1.336 |
| <b>T2-H0</b>                  | 1.450     | 1.474              | 1.393  | 1.337 |
| <b>T2-H2</b>                  | 1.453     | 1.485              | 1.396  | 1.341 |
| <b>T2-H3</b>                  | 1.451     | 1.475              | 1.393  | 1.337 |
| <b>Ox</b>                     | 1.472     | 1.478              | 1.393  | 1.332 |
| <b>MA</b>                     | 1.453     | 1.488              | 1.393  | 1.336 |
| <b>DA</b>                     | 1.459     | 1.489              | 1.393  | 1.336 |



**Figure S1.** Calculated electronic absorption spectra for tautomer **T1** and the monoprotinated tautomers **T1-H1**, **T1-H2**, and **T1-H3**.



**Figure S2.** Calculated electronic absorption spectra for tautomer **T2** and the monoprotinated tautomers **T2-H0**, **T2-H1**, **T2-H2**, and **T2-H3**.