**Figures – Supplementary Information**

A diagram of a graph showing different types of transistors

Description automatically generated with medium confidence

**Figure S1.** FTIR spectra of the complexes.

A graph of a graph of a reaction

Description automatically generated with medium confidence

**Figure S2.** SAXS curves for MSNs, SiO2m@Sm(tta-Si)3(phen)2, and SiO2m@Eu(tta-Si)3(phen).

A graph of a red and blue graph

Description automatically generated

**Figures S3.** LS spectra of the Sm(tta-Si)3(phen)2 complex, acquired with: λem= 650 nm and λexc= 375.5 nm; excitation/emission slits = 2/2 mm; increment = 0.5 nm; and speed = 0.1 s; and of the SiO2m@Sm(tta-Si)3(phen)2, acquired with: λem= 650 nm and λexc= 384 nm; excitation/emission slits = 2/2 mm; increment = 1 nm; and speed = 0.1 s.

A graph of a graph showing the different types of light

Description automatically generated with medium confidence

**Figures S4.** LS spectra of the Eu(tta-Si)3(phen) complex, acquired with: λem= 613.5 nm and λexc= 381.5 nm; excitation/emission slits = 2/2 mm; increment = 0.5 nm; and speed = 0.1 s; and of the SiO2m@Eu(tta-Si)3(phen), acquired with: λem= 611 nm and λexc= 374 nm; excitation/emission slits = 2/2 mm; increment = 1 nm; and speed = 0.1 s.

A graph of a normalized spectrum

Description automatically generated with medium confidence

**Figures S5.** LS spectra of the Eu(tta-Si)3(phen) complex, acquired with: λem= 613.5 nm and λexc= 381.5 nm; excitation/emission slits = 2/2 mm; increment = 0.5 nm; and speed = 0.1 s; and of the SiO2d@Eu(tta-Si)3(phen), acquired with: λem= 612 nm and λexc= 348 nm; excitation/emission slits = 2/2 mm; increment = 1 nm; and speed = 0.1 s.

**A diagram of a cell

Description automatically generated with medium confidence**

**Figure S6.** Cell viability percentage as a function of varying Sm(tta-Si)3(phen)2 (a) and Eu(tta-Si)3(phen) (b) from 10 to 100 µg mL-1 concentration.

A comparison of cell vaginal spectrometers

Description automatically generated

**Figure S7.** Cell viability percentage as a function of varying SiO2m@Sm(tta-Si)3(phen)2 (a) and SiO2m@Eu(tta-Si)3(phen) (b) from 10 to 100 µg mL-1 concentration.