

## Supplementary Information

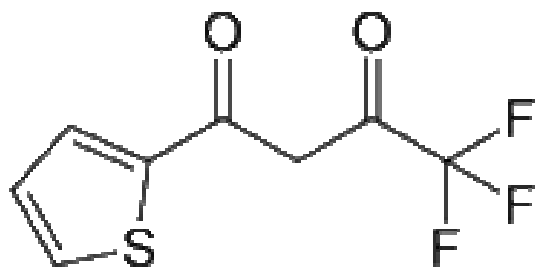
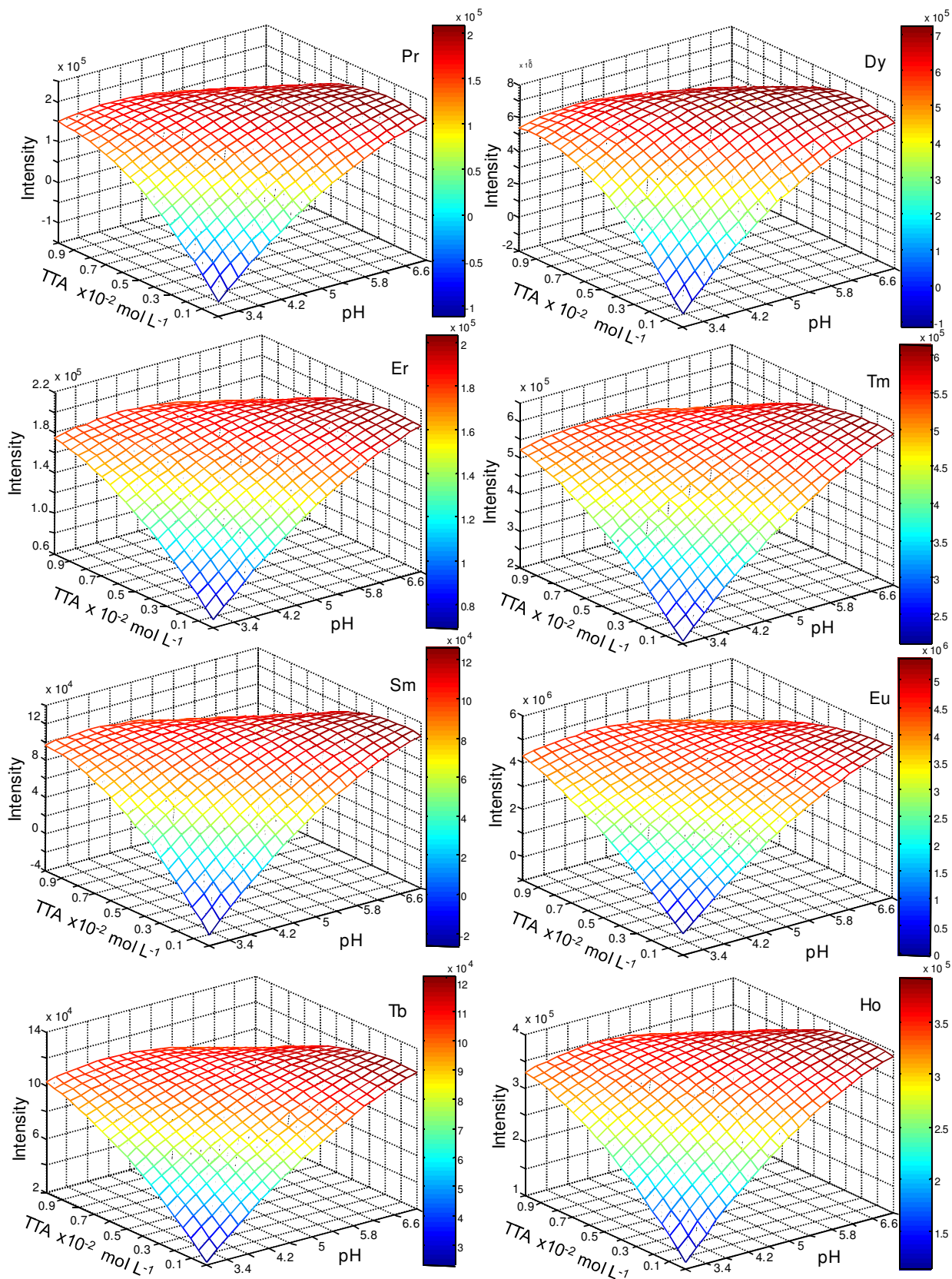


Figure 1S. Molecular structure of 2-TTA. Complexation of lanthanides with 2-TTA occurs through the oxygen atoms in the molecule.



**Fig. 2S** Response surfaces of Pr, Dy, Er, Tm, Sm, Eu, Tb and Ho in solution submitted to CPE; 1-(2-thenoyl)-3,3,3-trifluoroacetone (TTA) is used as complexant.