chemosensors

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Supplementary Information

New Terbium Complex as a Luminescent Sensor for the Highly Selective Detection of Malathion in Water Samples

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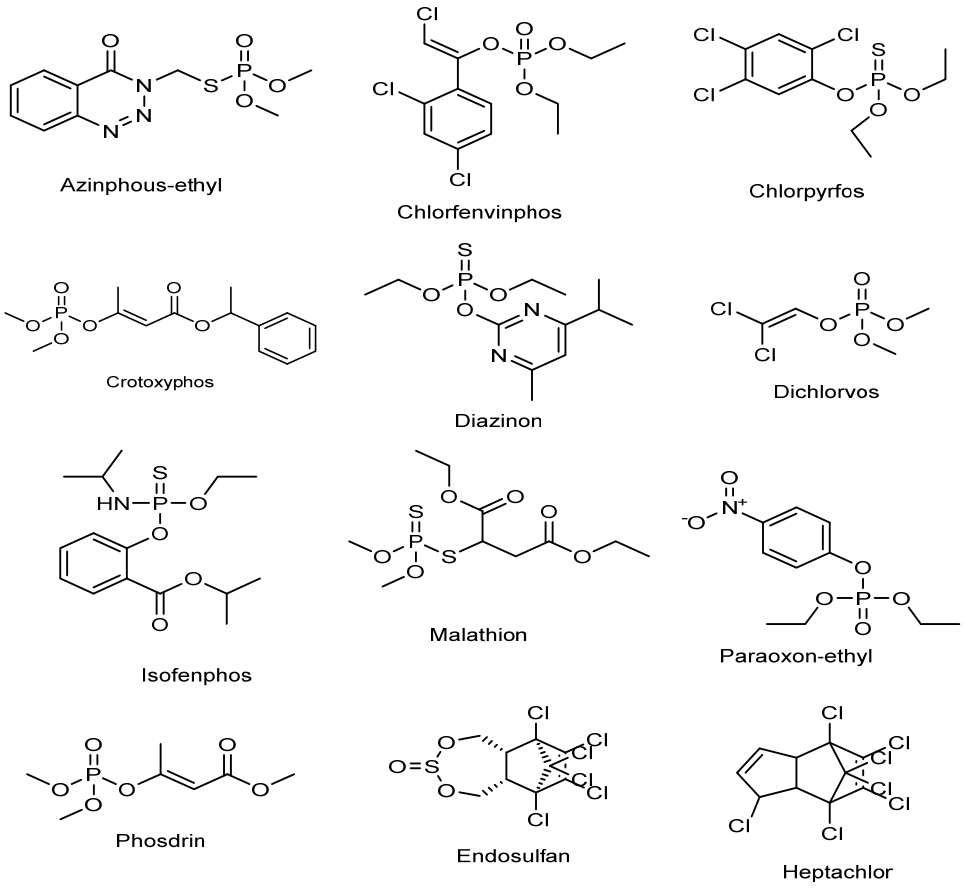

Scheme S1. The chemical structures of the organophosphorus pesticides.

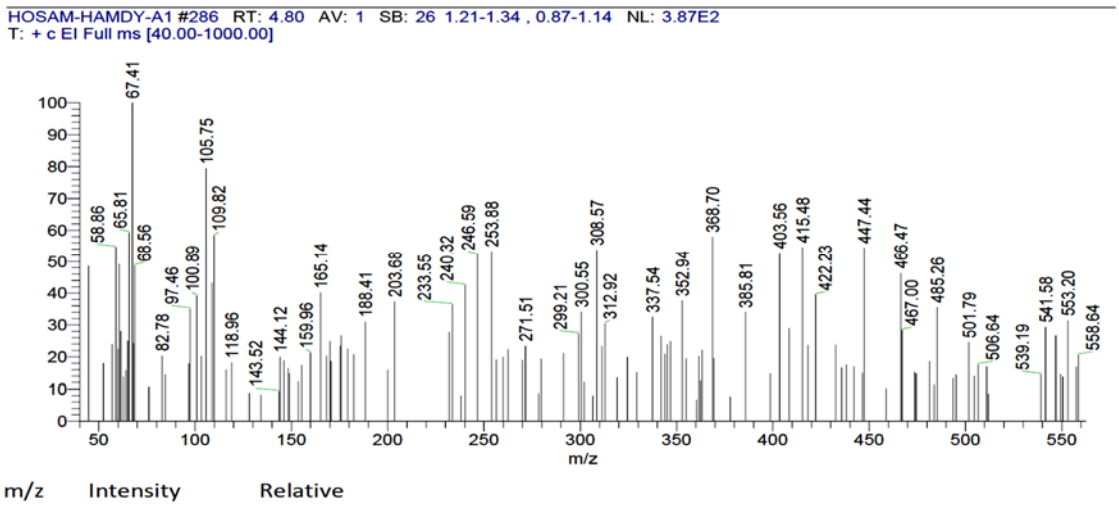

Figure S1. mass spectrum of the ligand.

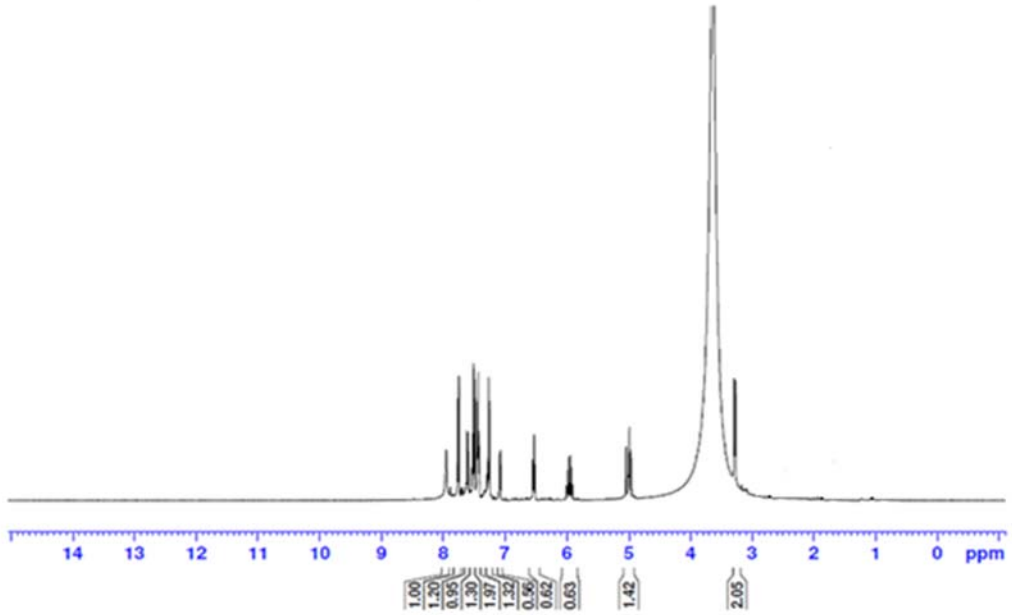

Figure S2. [1]HNMR of the ligand in DMSO-d6.

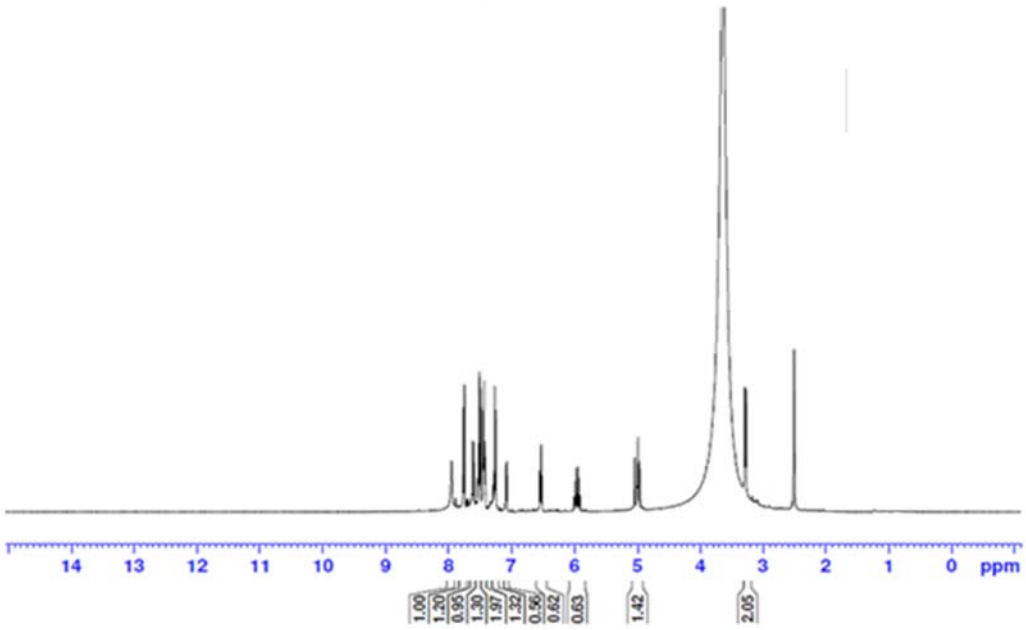

Figure S3. ^{1}HNMR of the ligand in DMSO-d6 + D_2O.

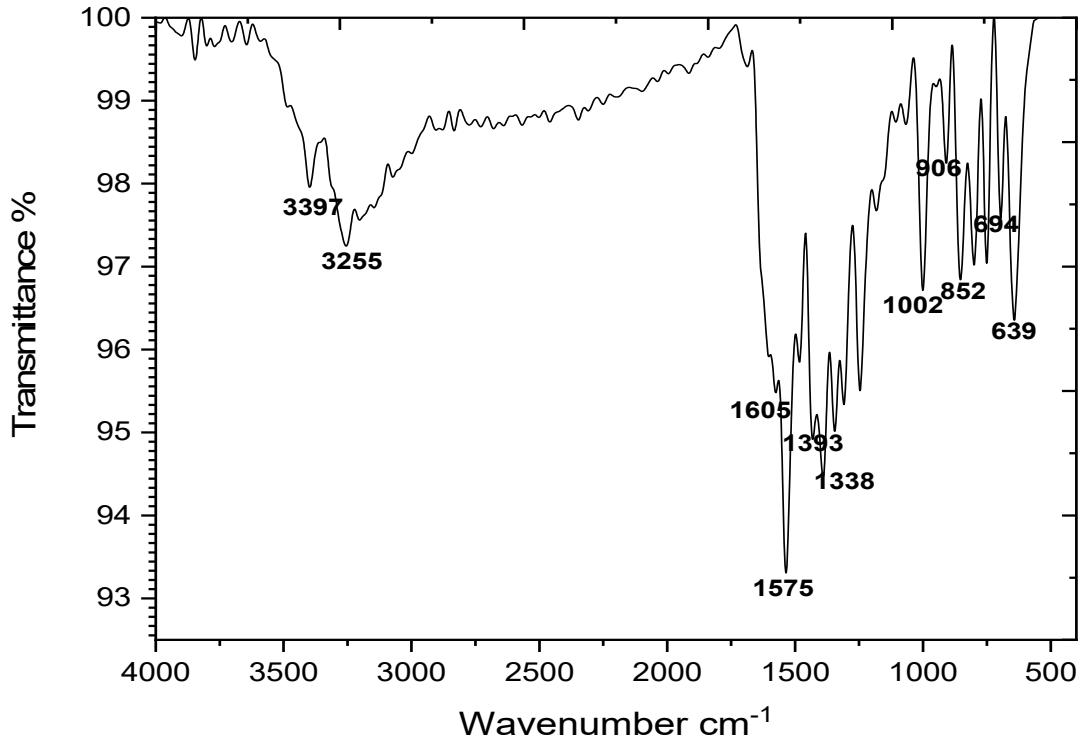

Figure S4. IR spectrum of the ligand.

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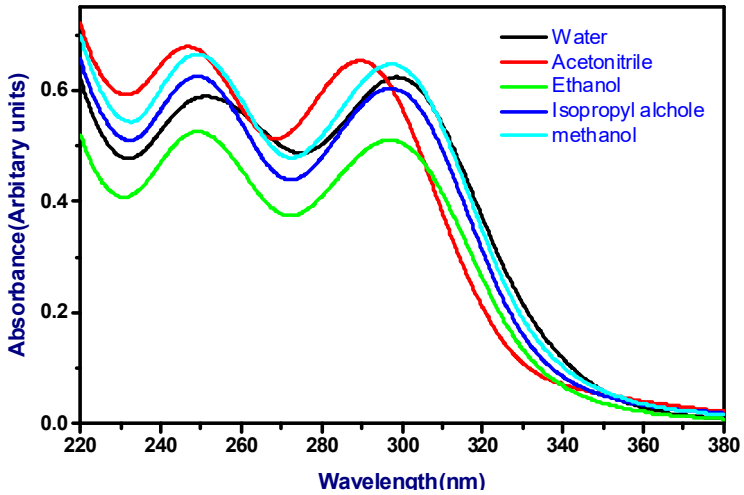

Figure S5. UV-spectra of 5 × 10^{-5} M H_2DBAZ in different solvents at room temperature.

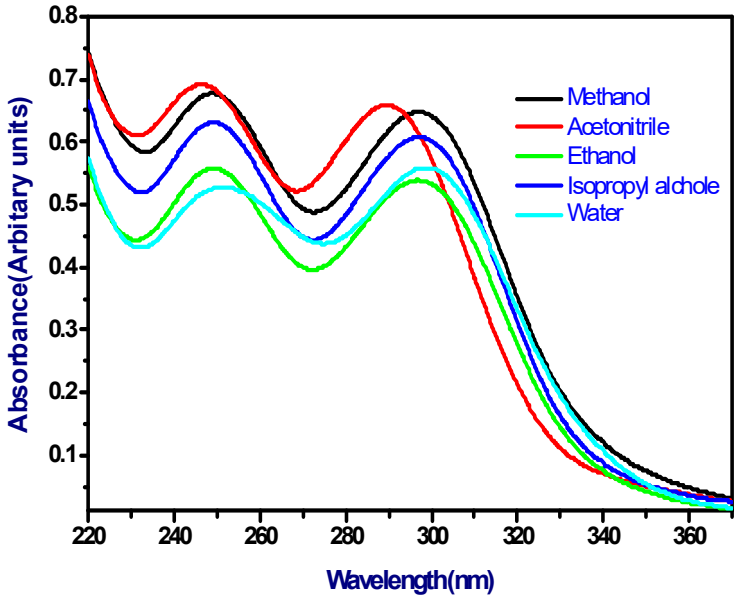

Figure S6. UV-spectra of 5 × 10^{-5} M Tb(III)-DBAZ complex in different solvents at room temperature.

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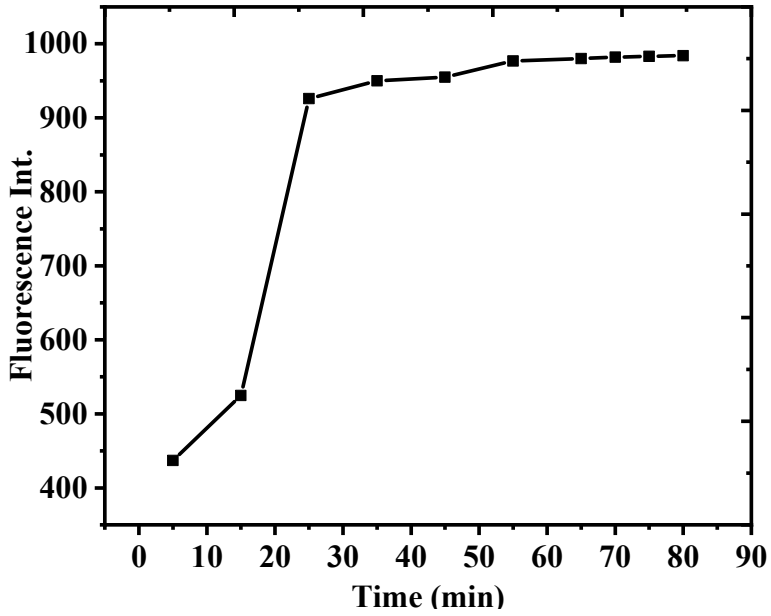

Figure S7. Effect of time on the luminescence intensity of 5 x 10^{-5} M of Tb(III)-(DBAZ) complex in methanol medium, sensitivity high, λ_{ex} = 360 nm, at 25 ^{0}C.

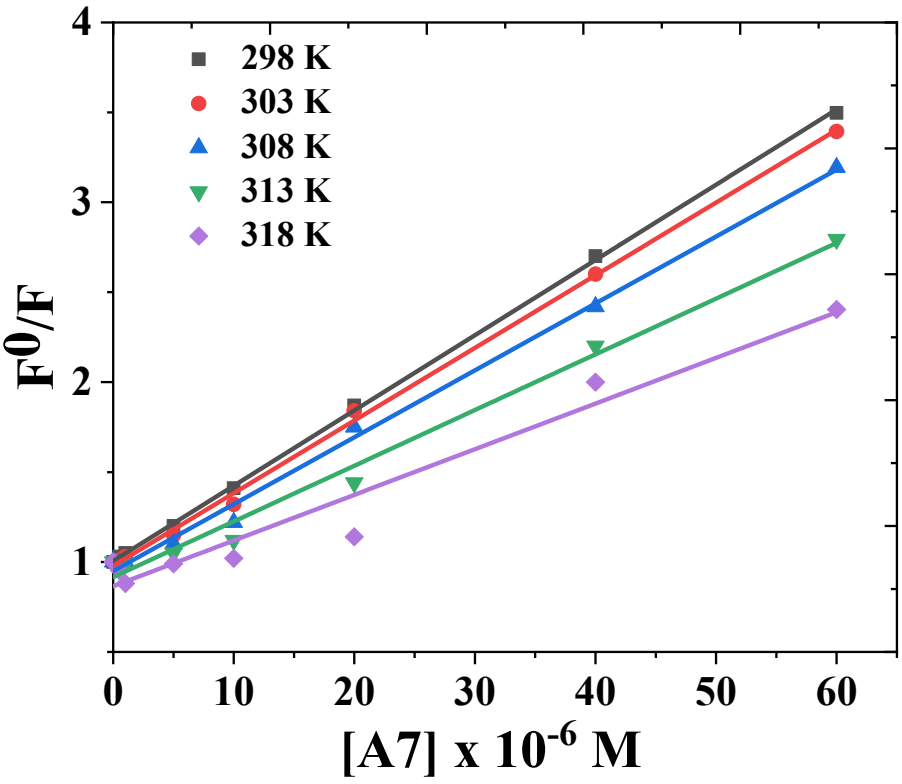

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Figure S8. F^0/F against [A7] for Malathion upon its interaction with 5 × 10^{-5} M of Tb(III)-(DBAZ) complex in methanol at different temperatures, λ_{ex} = 360 nm.

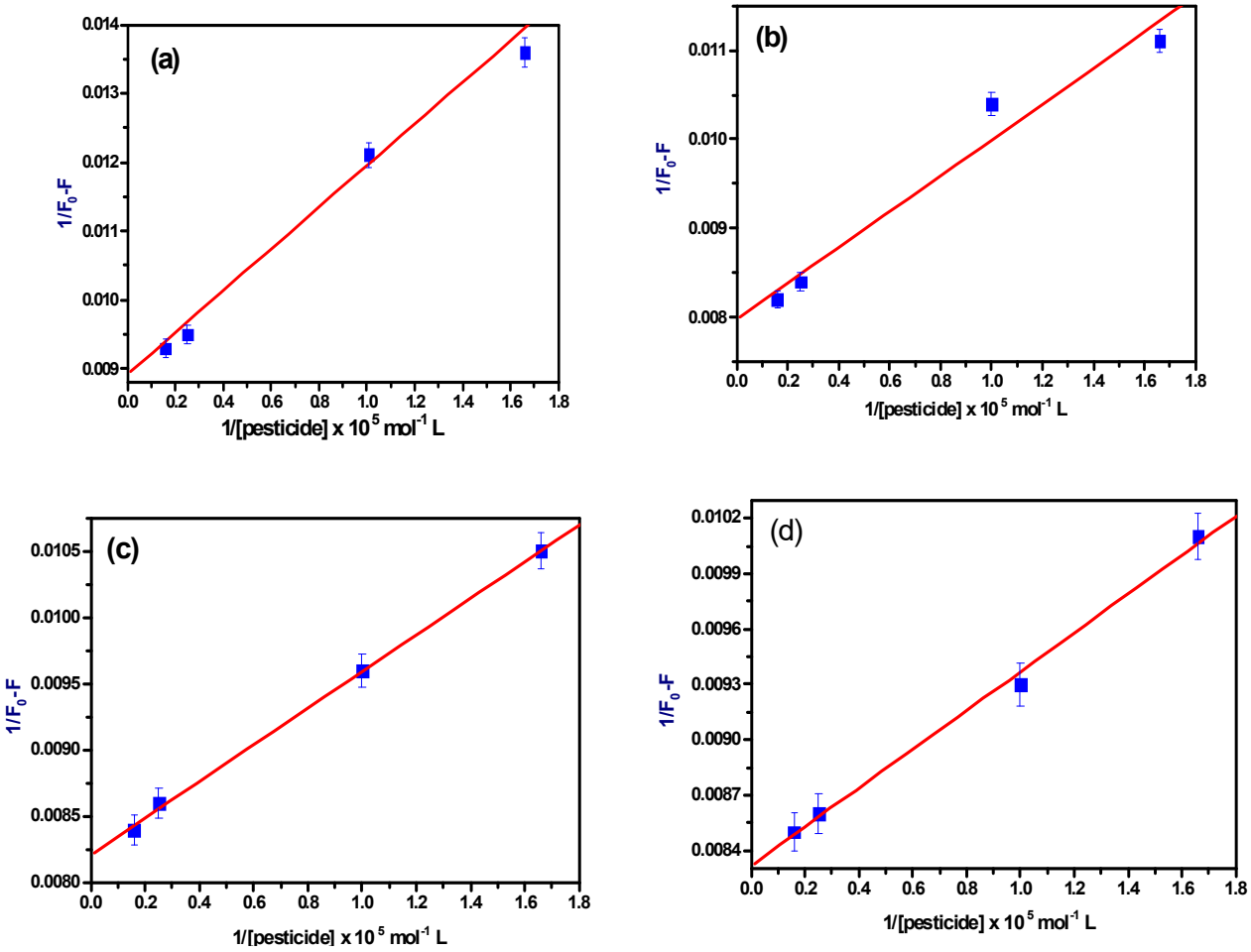

Figure S9. $1/F_0$-F against 1/[pesticide] for Malathion (A7) upon its interaction with 5×10^{-5} M of Tb(III)-(DBAZ) at different temperatures, (a) at 303 K (b) at 308 K (c) at 313 K (d) at 318 K.