Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Effect of anthracene-based chalcone derivatives in the resazurin dye reduction assay mechanisms for investigation of gram-positive and gram-negative bacterial and fungal infection†

Gopi Prakash, Mani Boopathy, Ramasamy Selvam, Samuel Johnsanthoshkumar, Kathavarayan Subramanian*

Department of Chemistry, Anna University, Guindy, Chennai-600 025, India.

**Correspondence to: K. Subramanian, E-mail: kathsubramanian@yahoo.com*

Supplementary Information

Contents **Page**

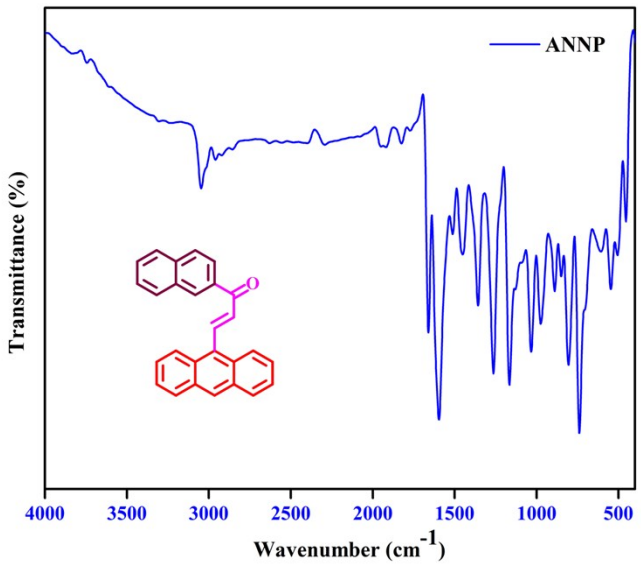

Fig. S1 FT-IR spectra of ANNP

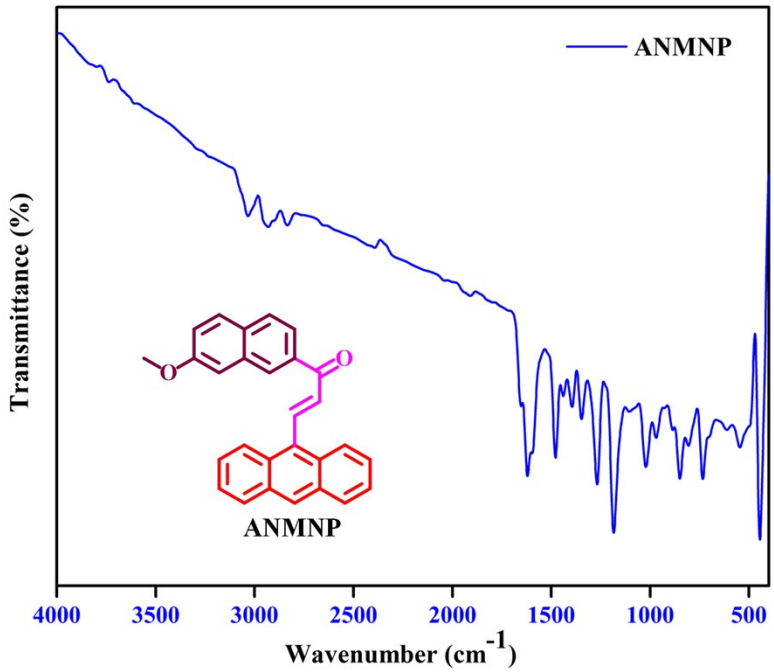

Fig. S2 FT-IR spectra of ANMNP

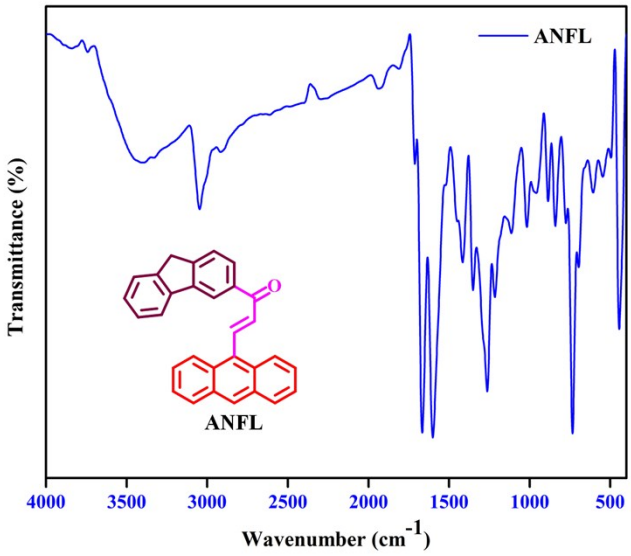

Fig. S3 FT-IR spectra of ANFL

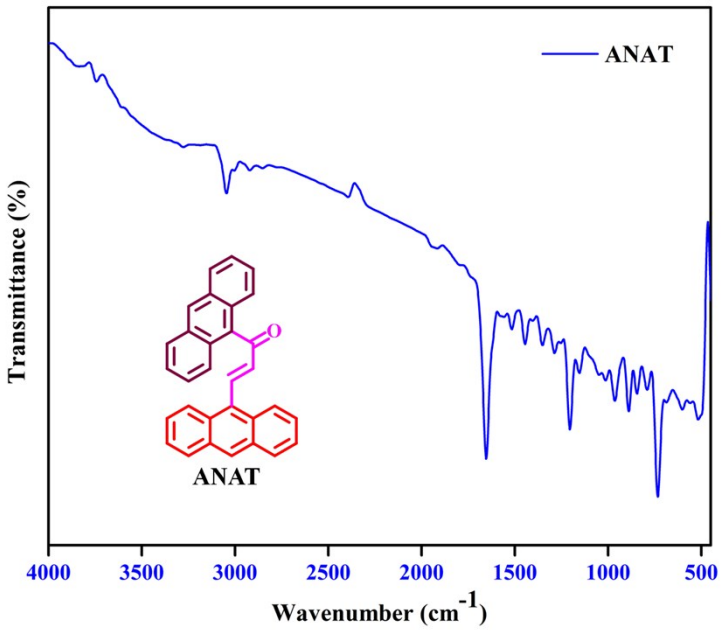

Fig. S4 FT-IR spectra of ANAT

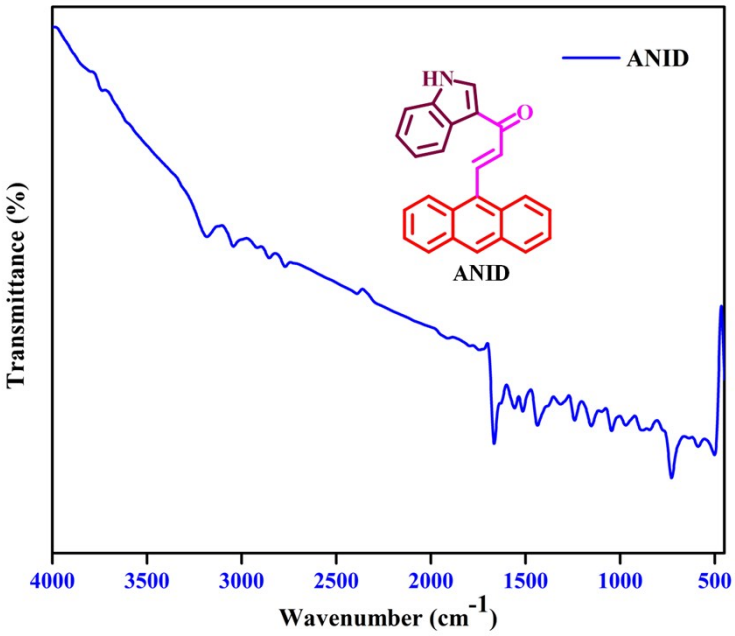

Fig. S5 FT-IR spectra of ANID

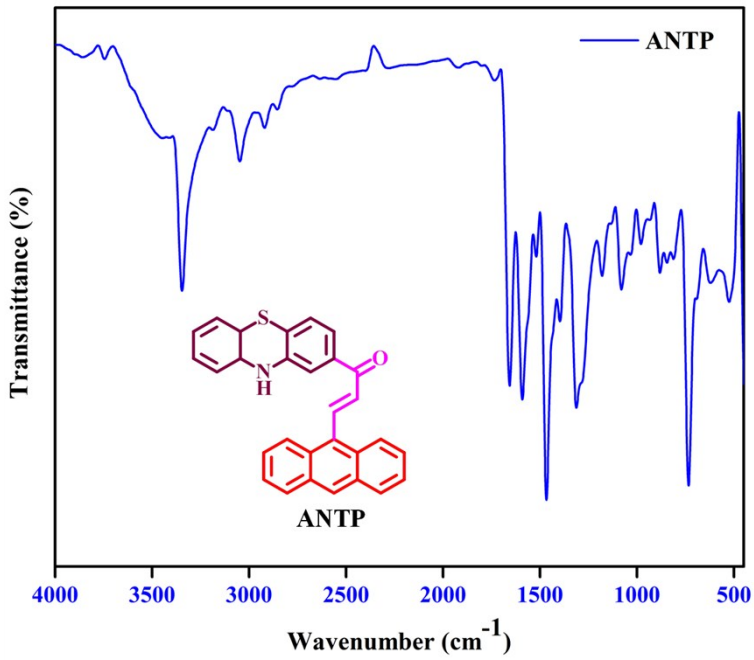

Fig. S6 FT-IR spectra of ANPT

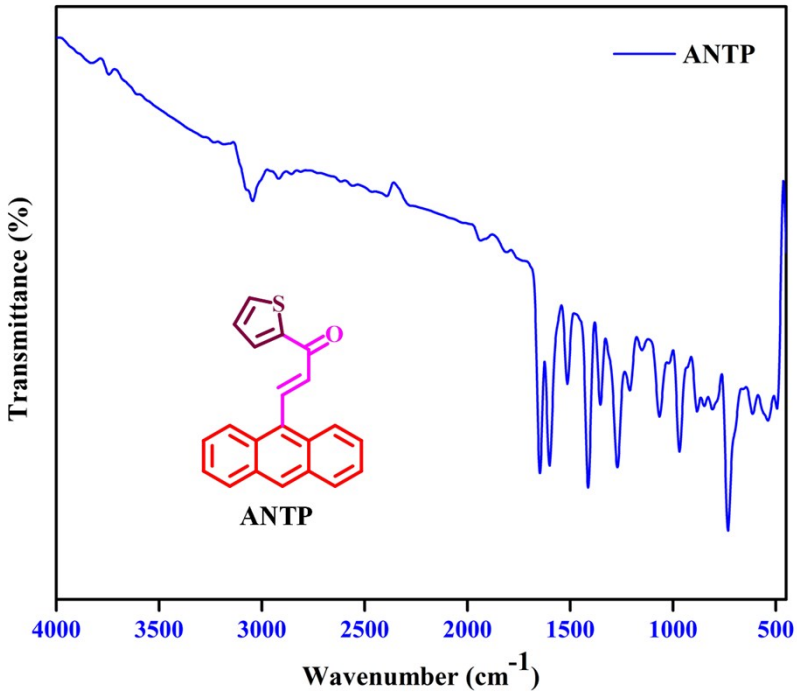

Fig. S7 FT-IR spectra of ANTP

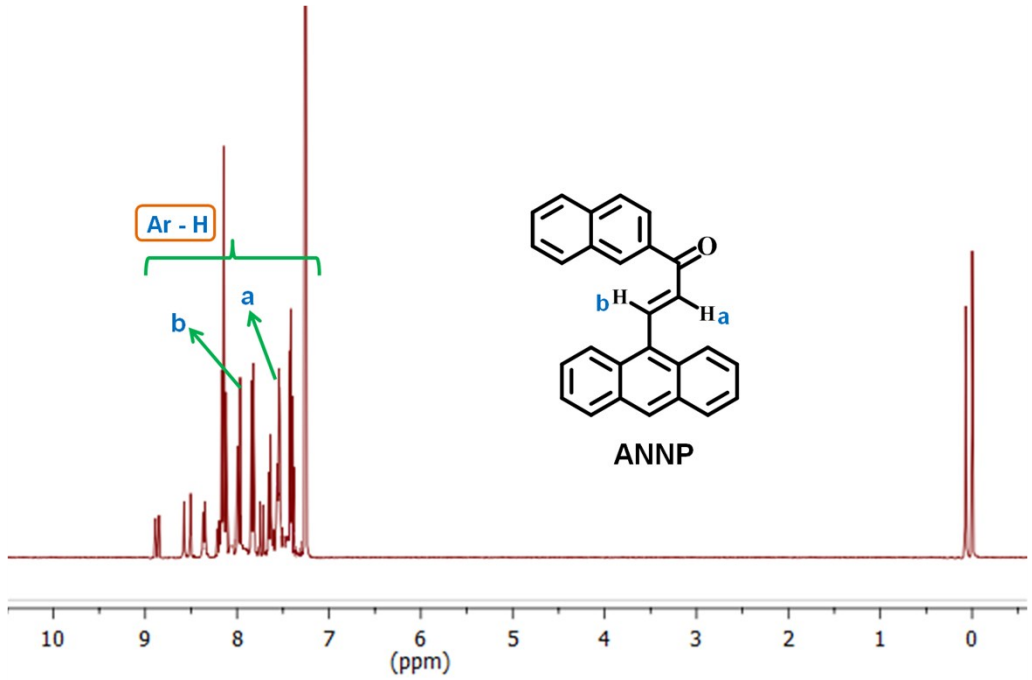

Fig. S8 ^{1}H-NMR spectra of ANNP

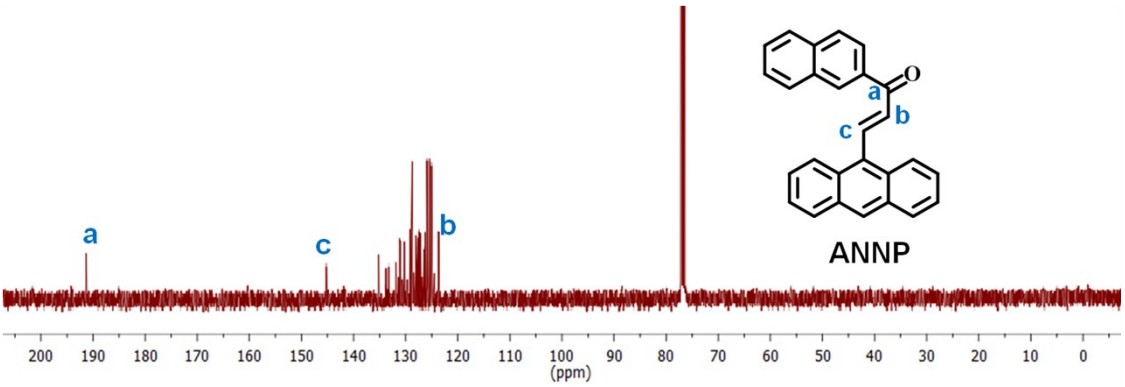

Fig. S9 ^{13}C-NMR spectra of ANNP

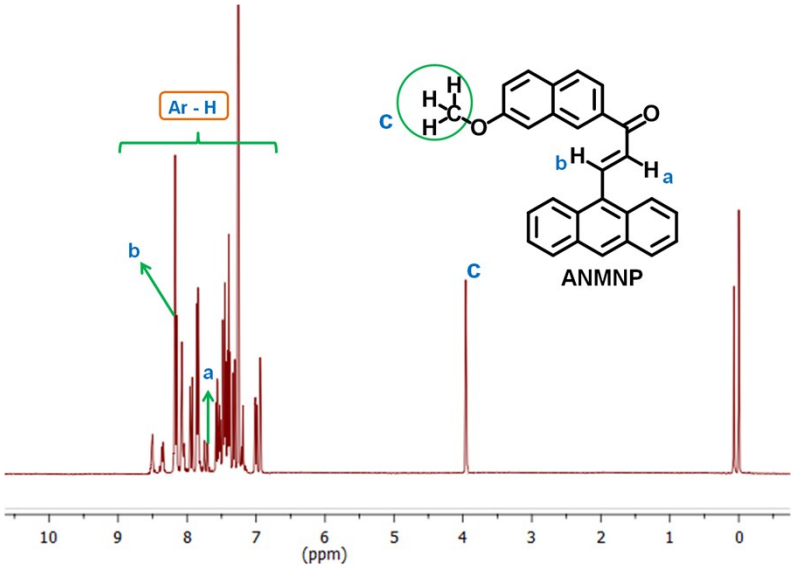

Fig. S10 ^{1}H-NMR spectra of ANMNP

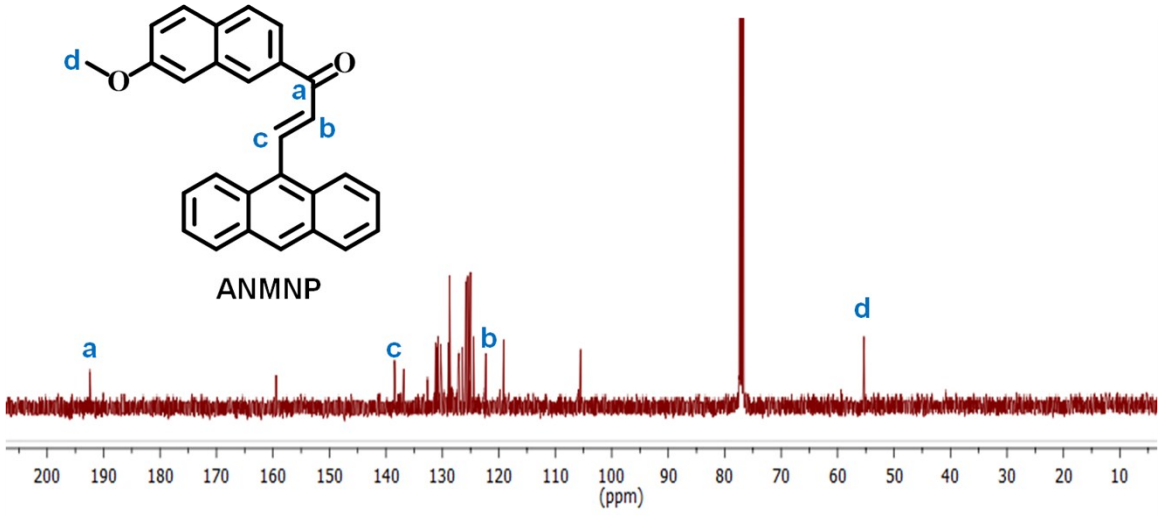

Fig. S11 ^{13}C-NMR spectra of ANMNP

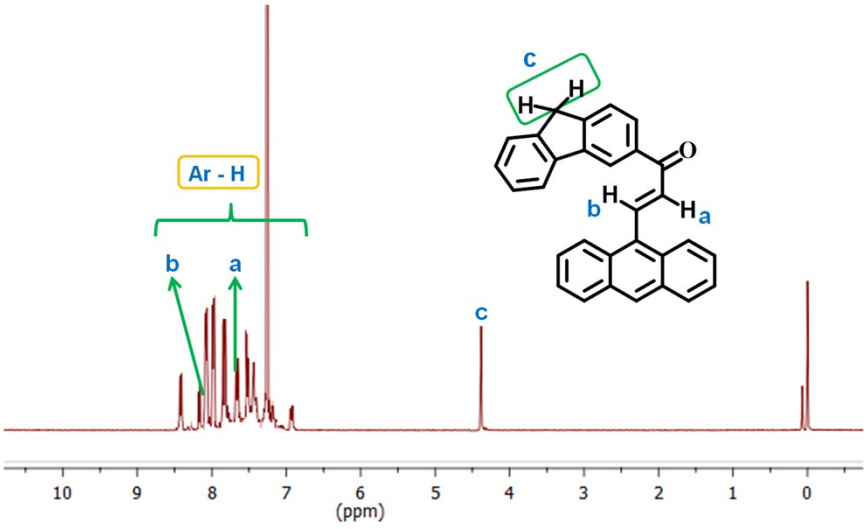

Fig. S12 ^{1}H-NMR spectra of ANFL

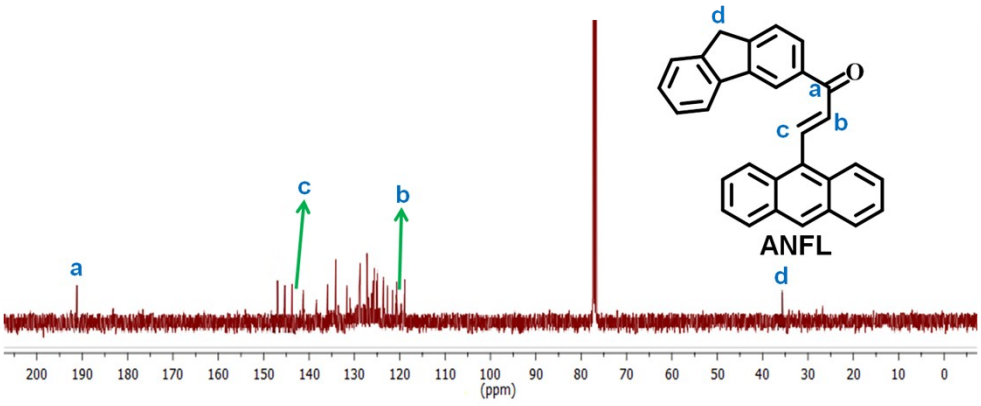

Fig. S13 ^{13}C-NMR spectra of ANFL

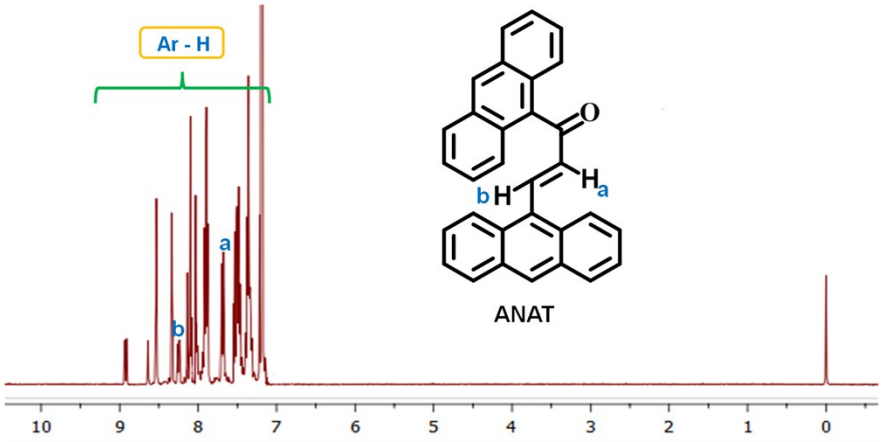

Fig. S14 ^{1}H-NMR spectra of ANAT

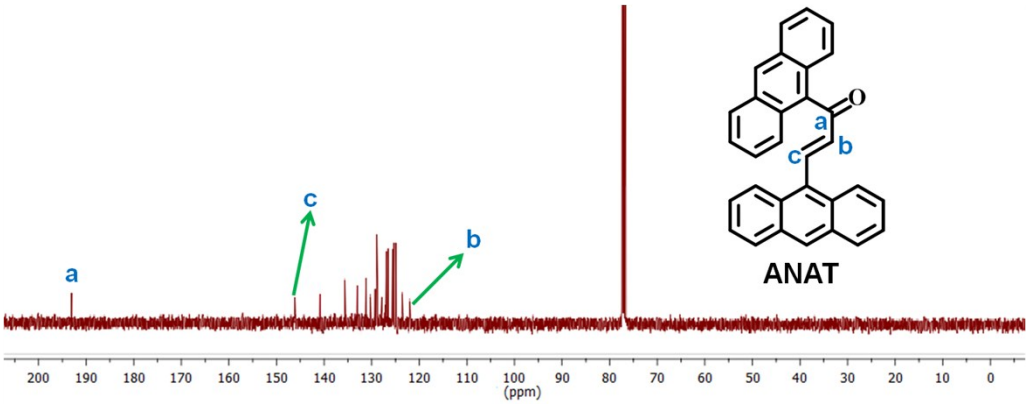

Fig. S15 ^{13}C-NMR spectra of ANAT

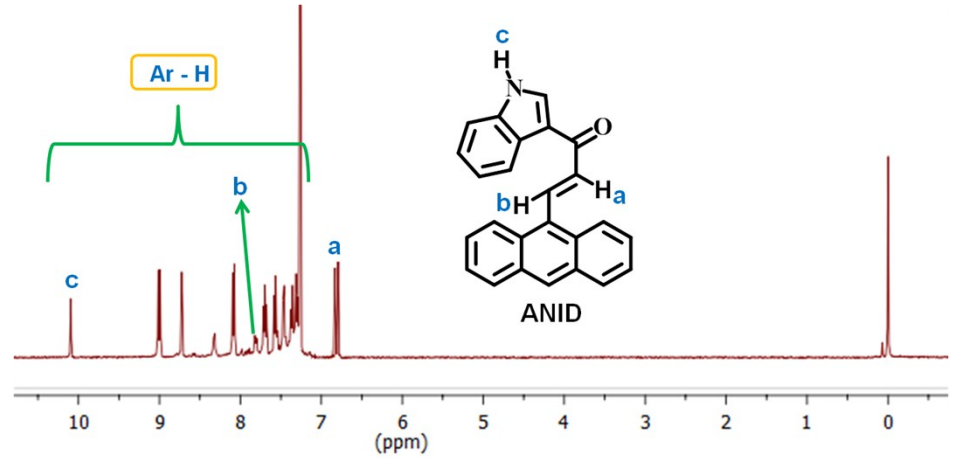

Fig. S16 ^{1}H-NMR spectra of ANID

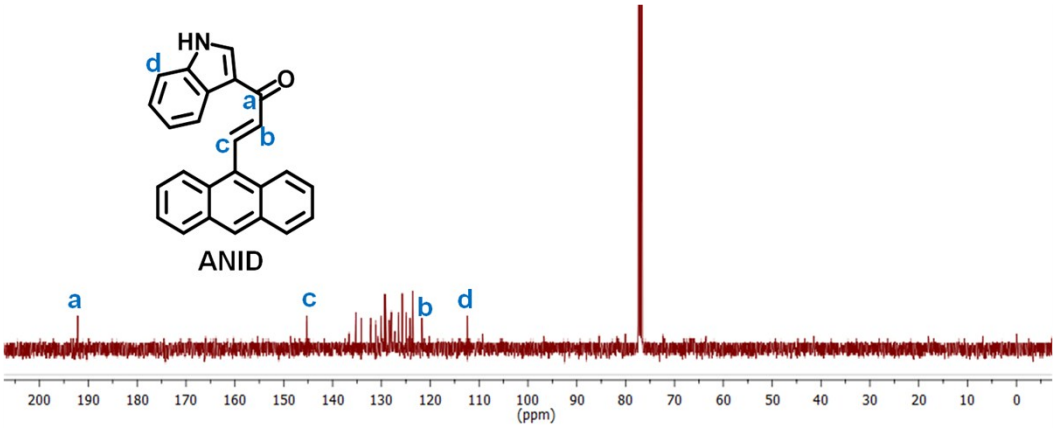

Fig. S17 ^{13}C-NMR spectra of ANID

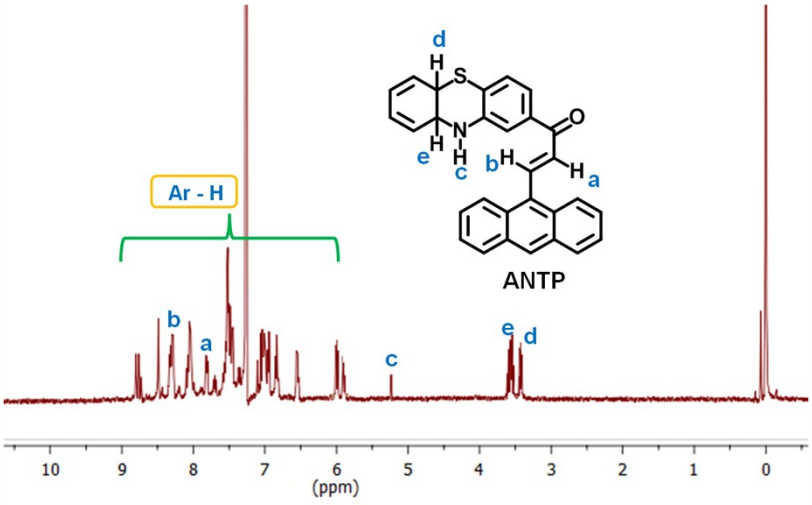

Fig. S18 ^{1}H-NMR spectra of ANPT

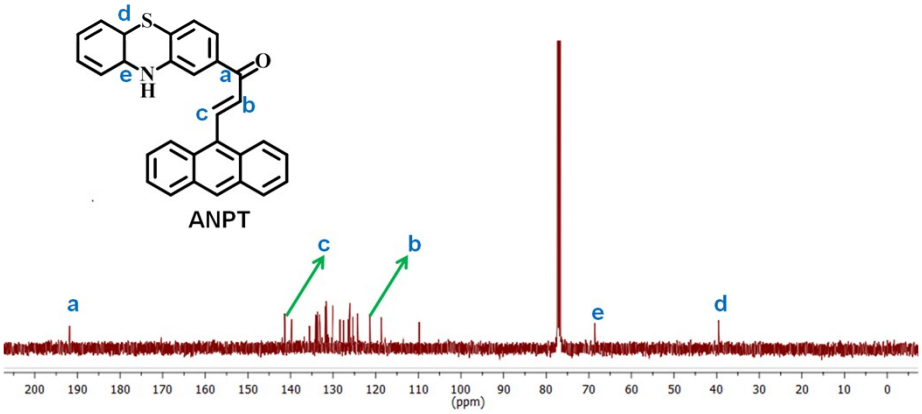

Fig. S19 ^{13}C-NMR spectra of ANPT

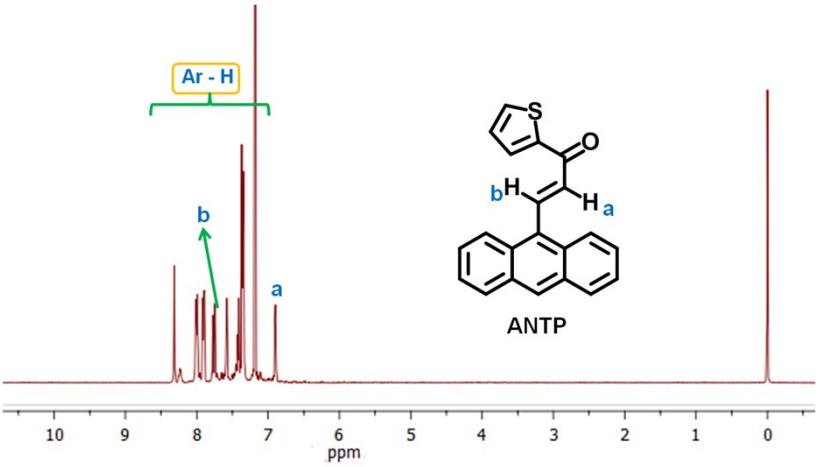

Fig. S20 ^{1}H-NMR spectra of ANTP

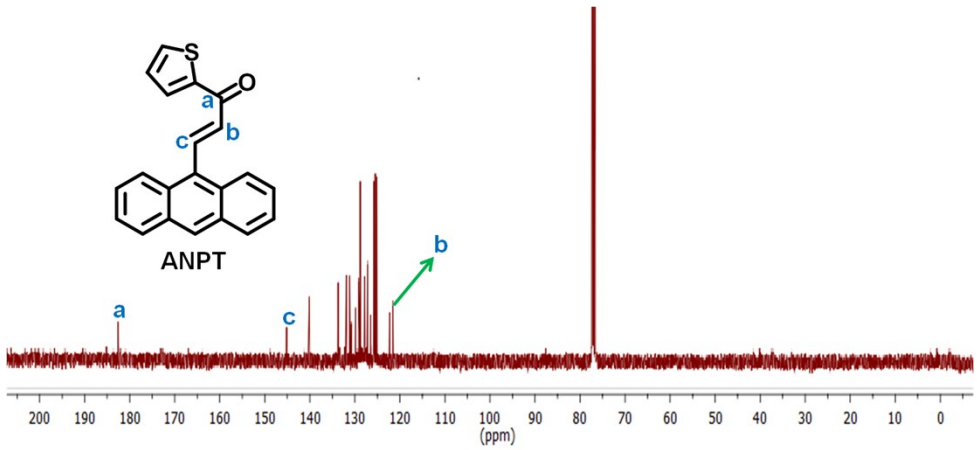

Fig. S21 ^{13}C-NMR spectra of ANTP

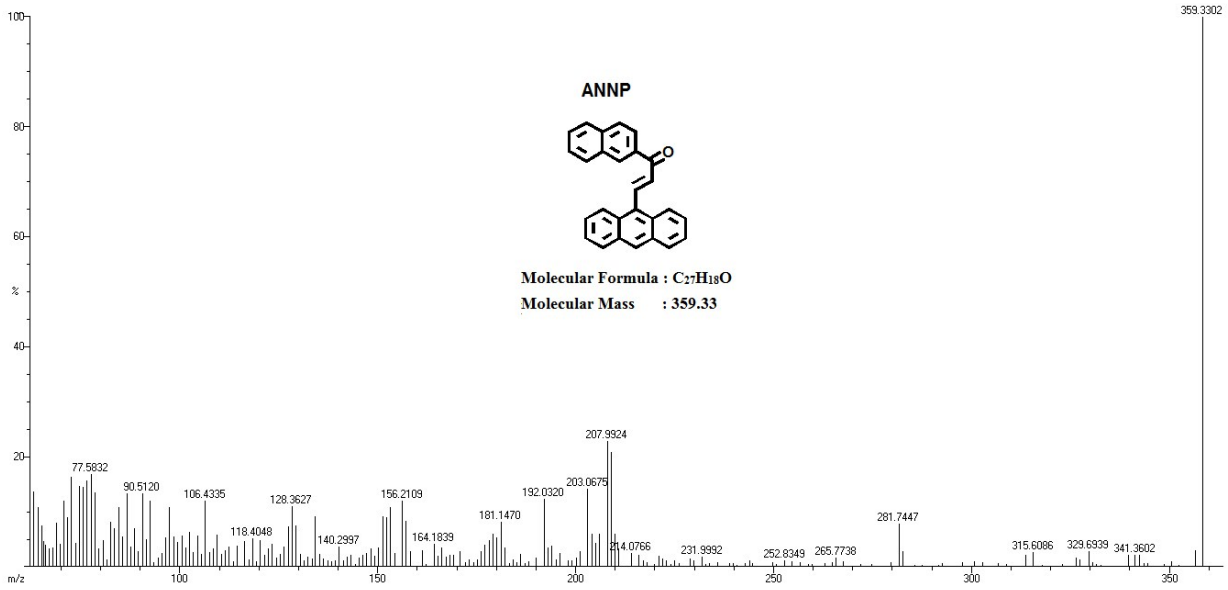

Fig. S22 MASS spectra of ANNP

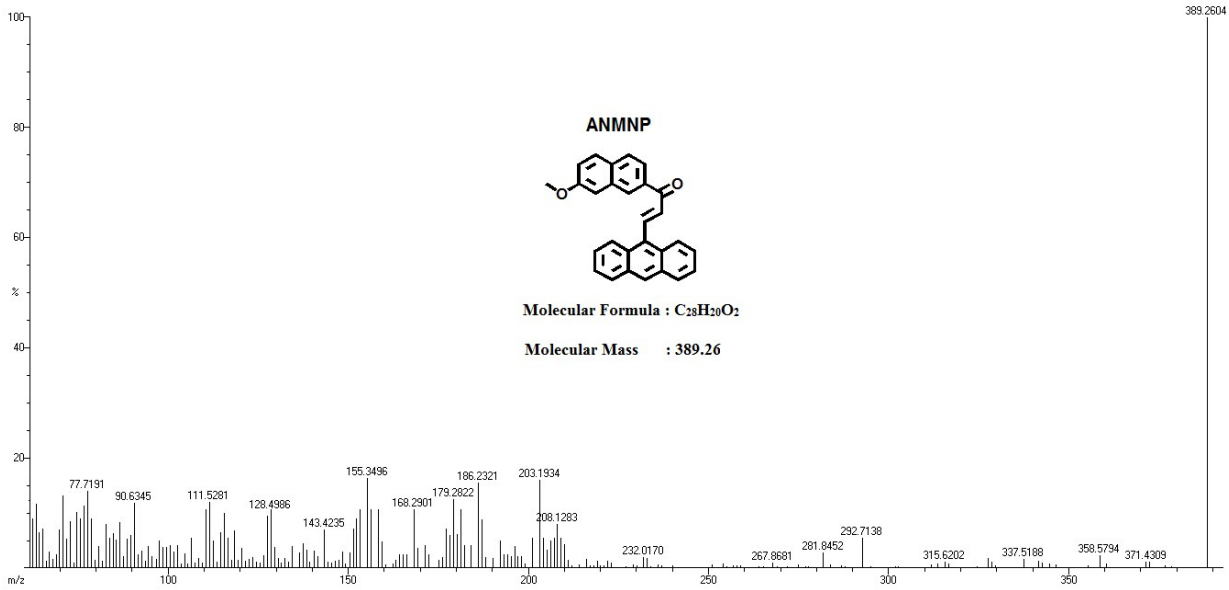

Fig. S23 MASS spectra of ANMNP

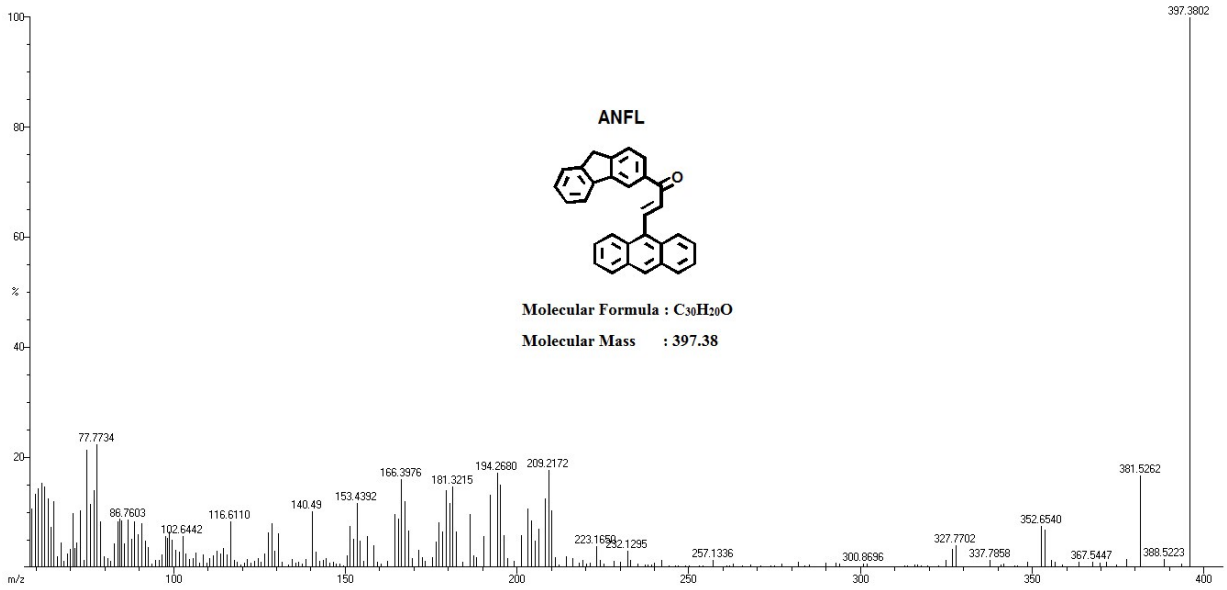

Fig. S24 MASS spectra of ANFL

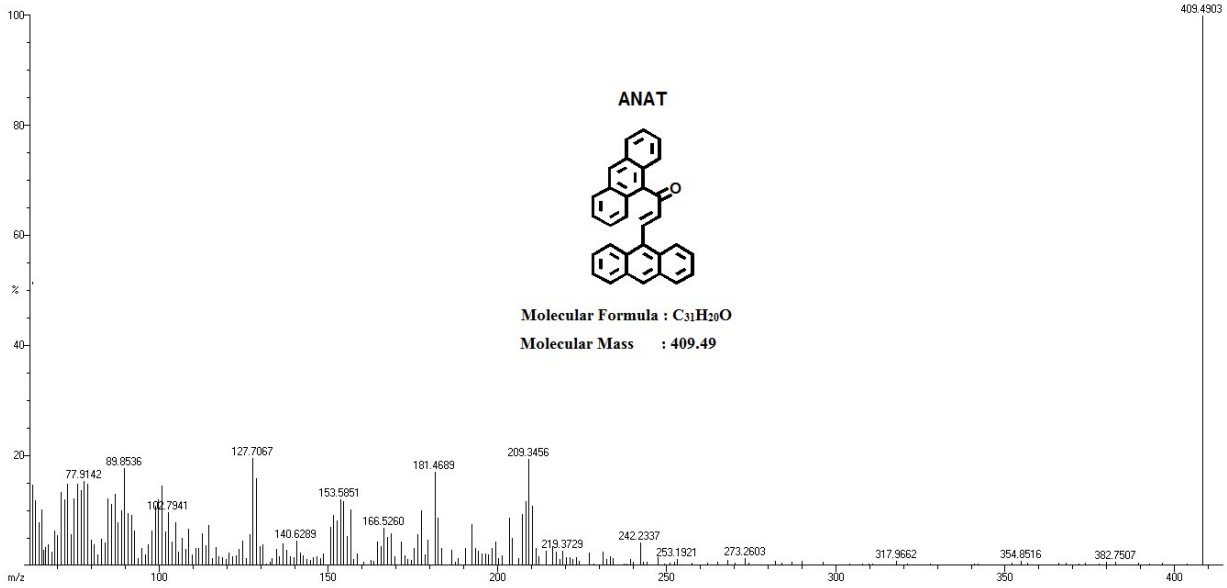

Fig. S25 MASS spectra of ANAT

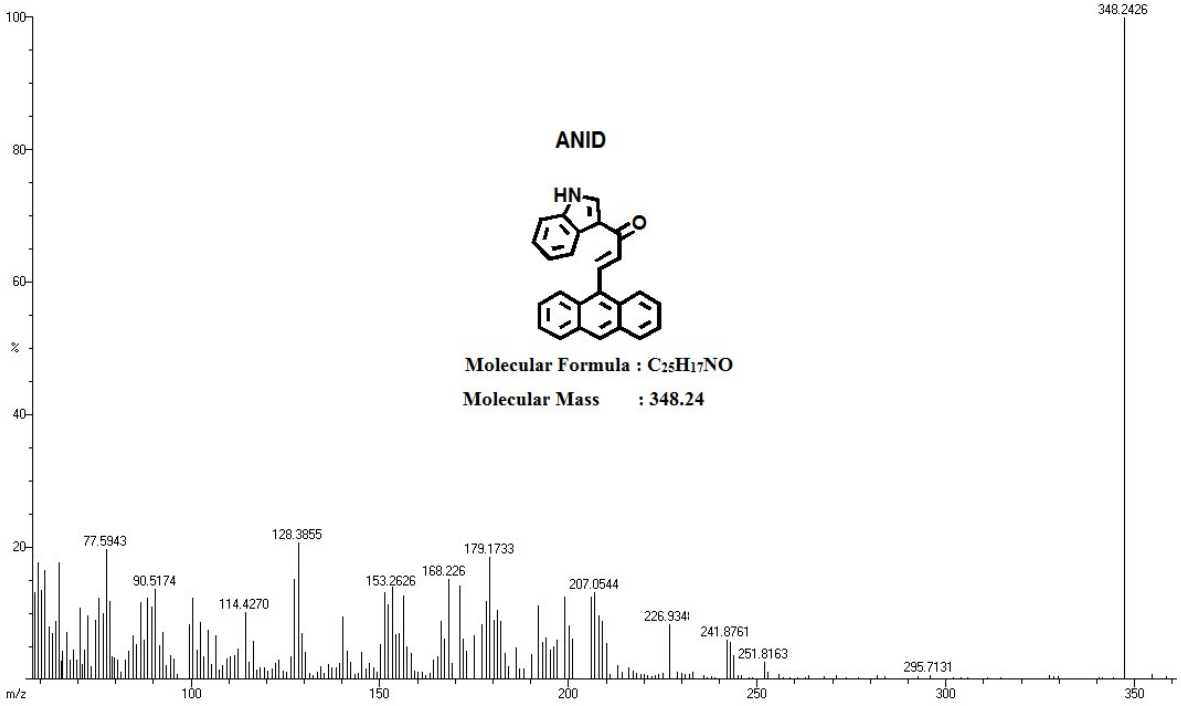

Fig. S26 MASS spectra of ANID

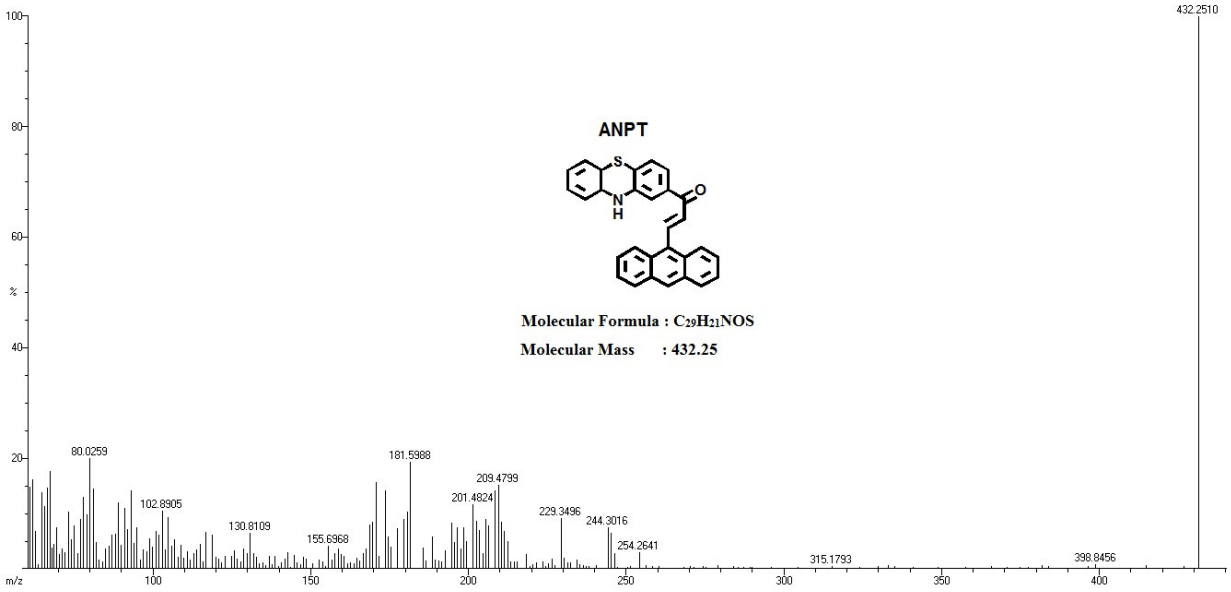

Fig. S27 MASS spectra of ANPT

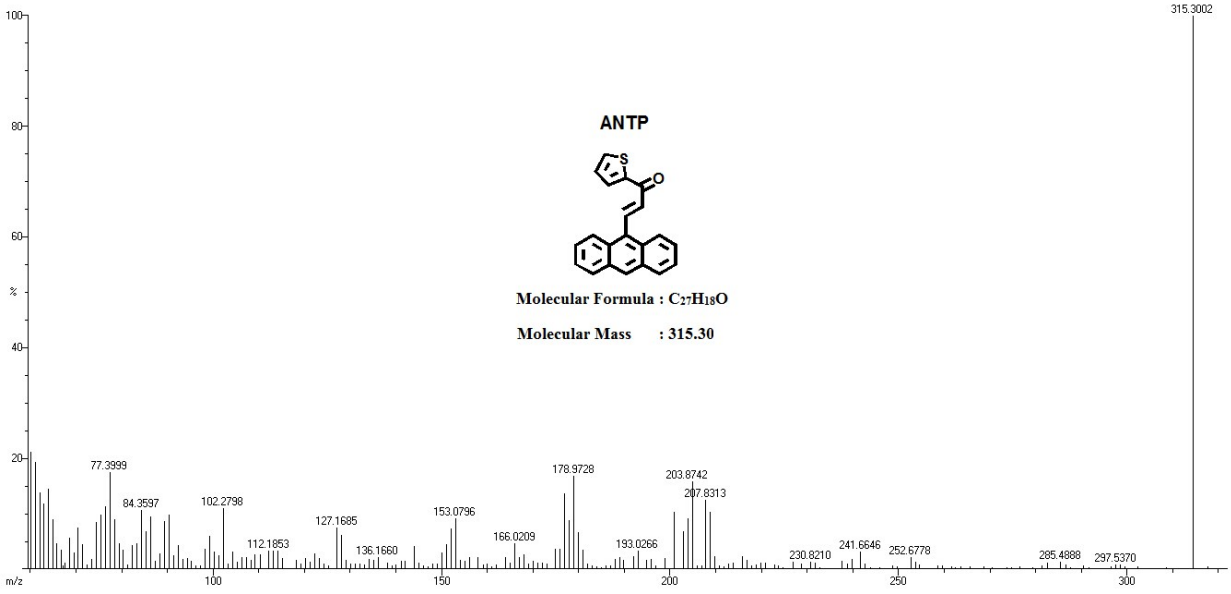

Fig. S28 MASS spectra of ANTP

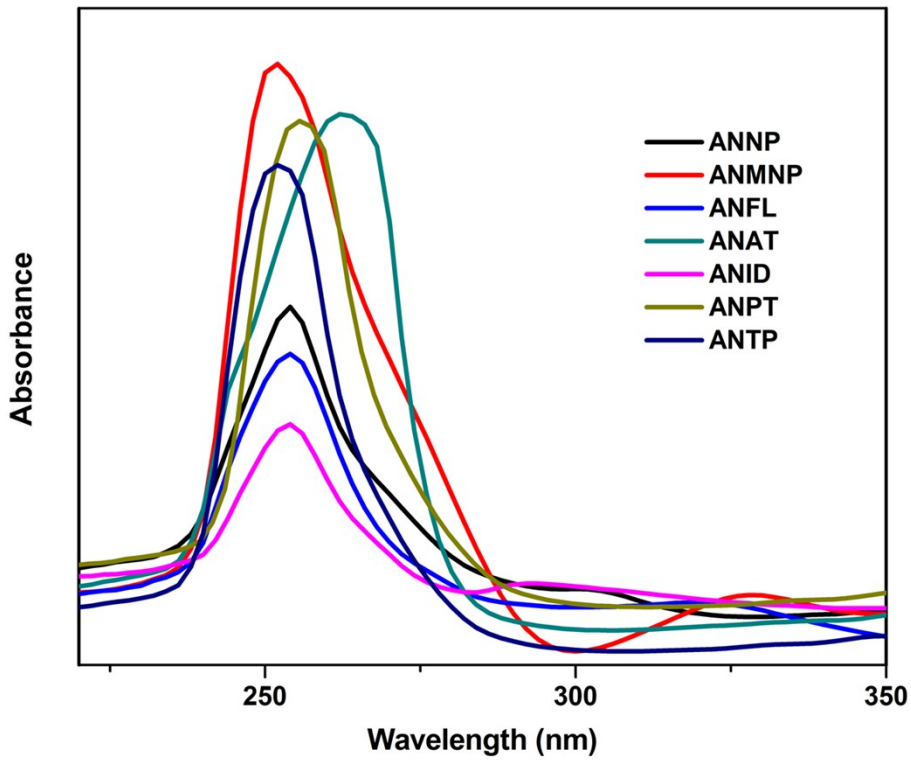

Fig. S29 UV–Visible spectra of chalcone compounds.

Optical studies

Absorption spectra of chalcone based compounds **ANNP, ANMNP, ANFL, ANAT, ANID, ANPT, ANTP** (Fig. S21) were examined by UV–Visible spectrophotometer using chloroform as a reference solvent. Absorbtion maxima of all chalcone compounds show around at 260 nm. It is due to α,β-unsaturated carbonyl carbon unit present in the molecule along with polycyclic aromatic rings. The results expose that, significant longer wavelength absorption peak obtained credited to π–π transition of all the compounds. The absorption peak observed at 252 nm for 6-methoxy naphthalene and thiophene substituted compounds **ANMNP** and **ANTP,** 254 nm for naphthalene, fluorine and anthracene substituted compounds **ANNP, ANFL** and **ANAT**, 256 for phenothiozine substituted compound **ANTP**. Among them **ANAT** showed higher λ_{max} value (263 nm) than other chalcones. It may be due to two anthracene rings connects by α,β-unsaturated carbonyl carbon of chalcone unit.