

Emission enhancement in twisted pyridyl salt using Montmorillonite Nano clay by intercalation and surface-fixation process

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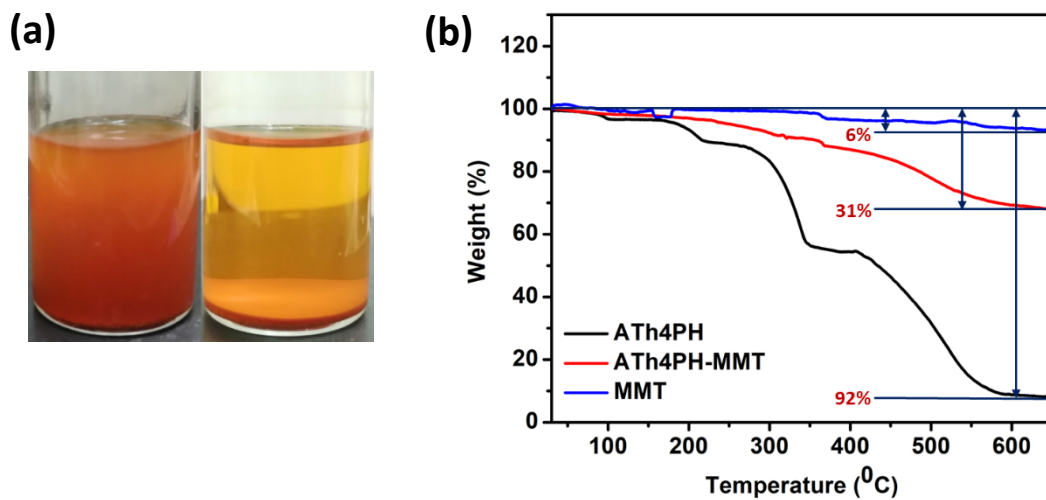


Fig. S1 (a) Images of the vials (under ambient light) before (left) and after (right) **ATH4PH-MMT** composite precipitation, and (b) TGA study of **MMT**, **ATH4PH** and **ATH4PH-MMT** composite.

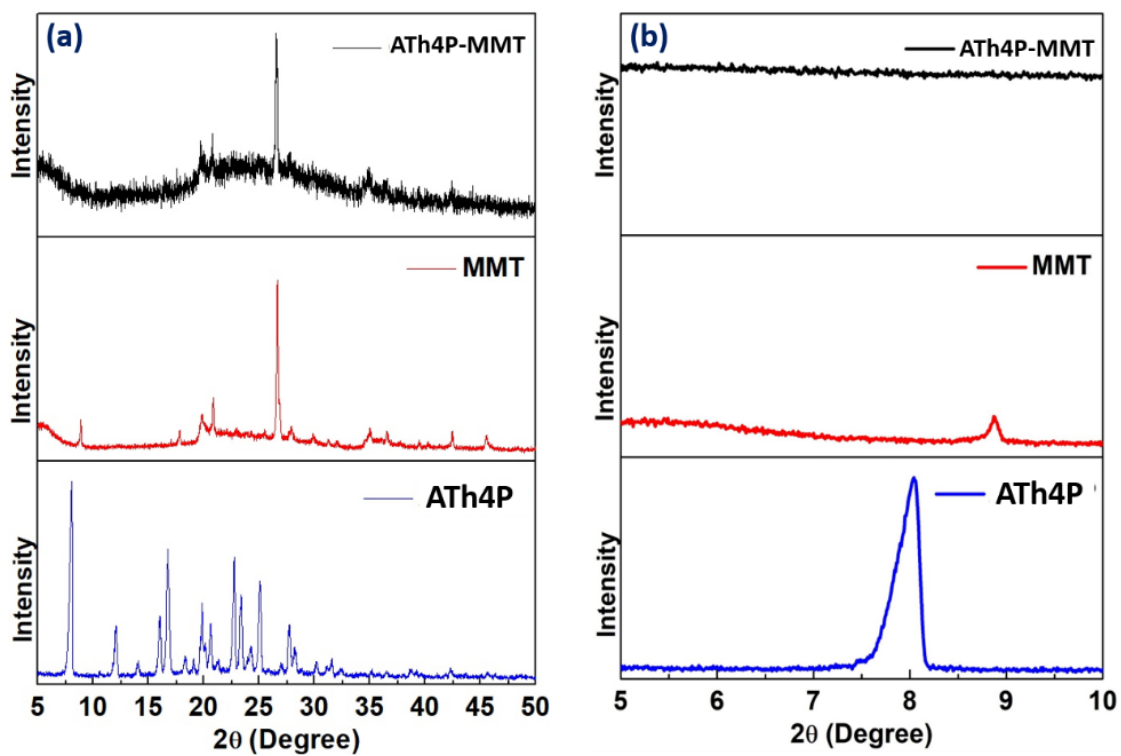


Fig. S2 PXR D pattern comparison among **ATH4P** (non-protonated form of **ATH4PH**), **MMT** and **ATH4P-MMT** mixture.

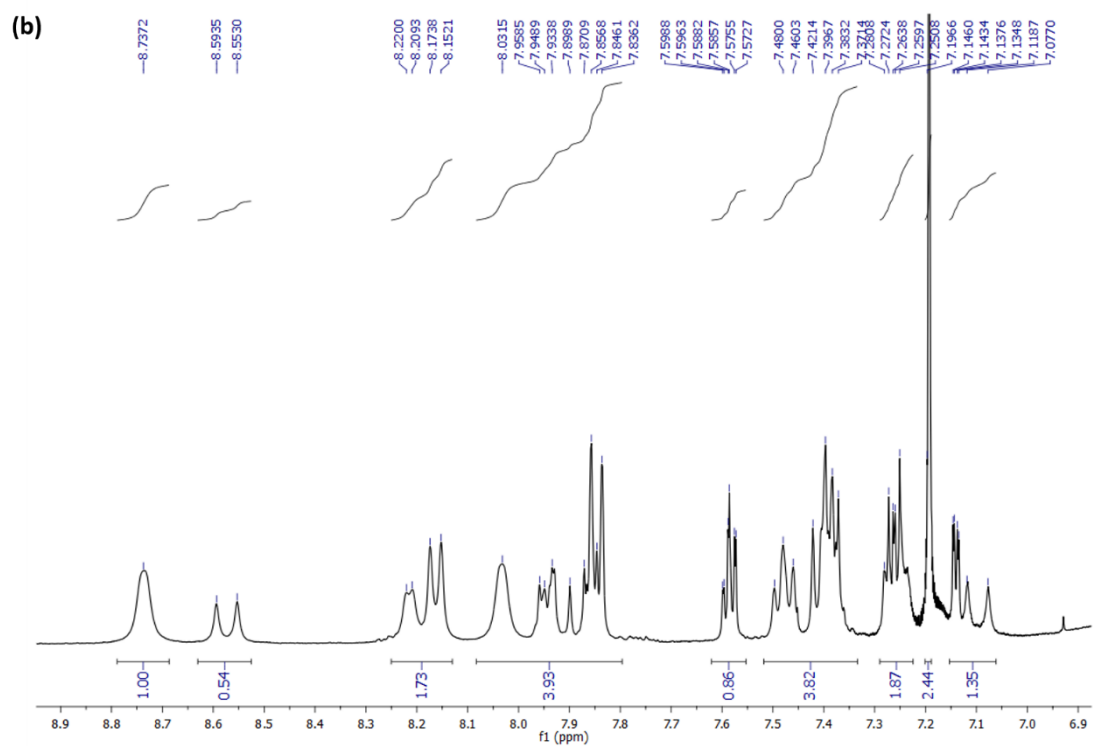
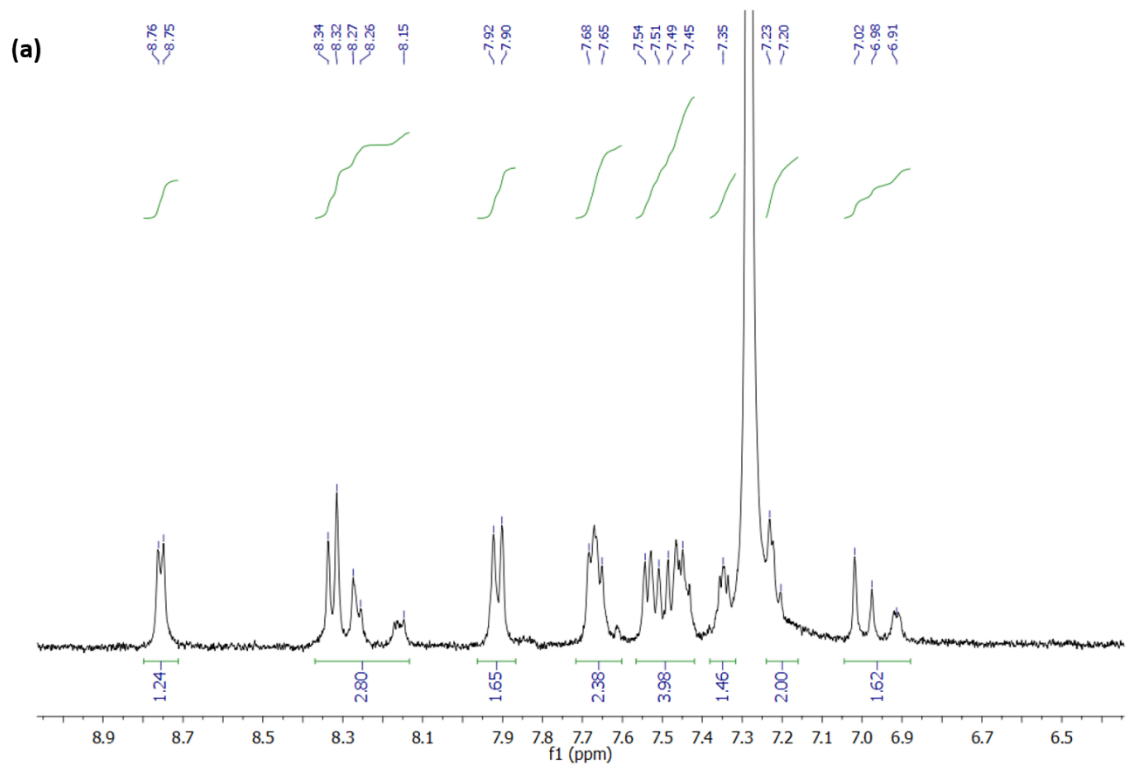


Fig. S3 ^1H NMR analysis of (a) ATH4PH-MMT and (b) ATH4PH

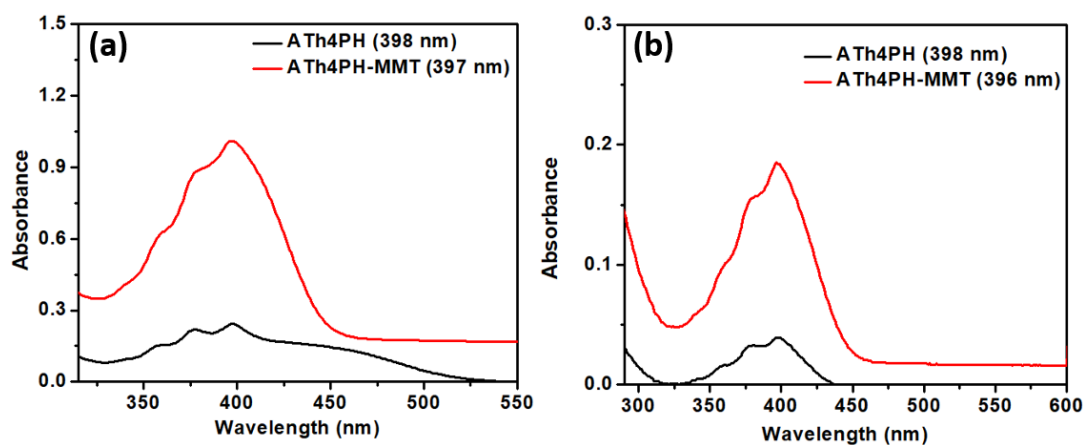


Fig. S4 Absorbance spectra of **ATh4PH** and **ATh4PH-MMT** in **Ethanol** (a) 10^{-4} (M) (b) 10^{-5} (M)

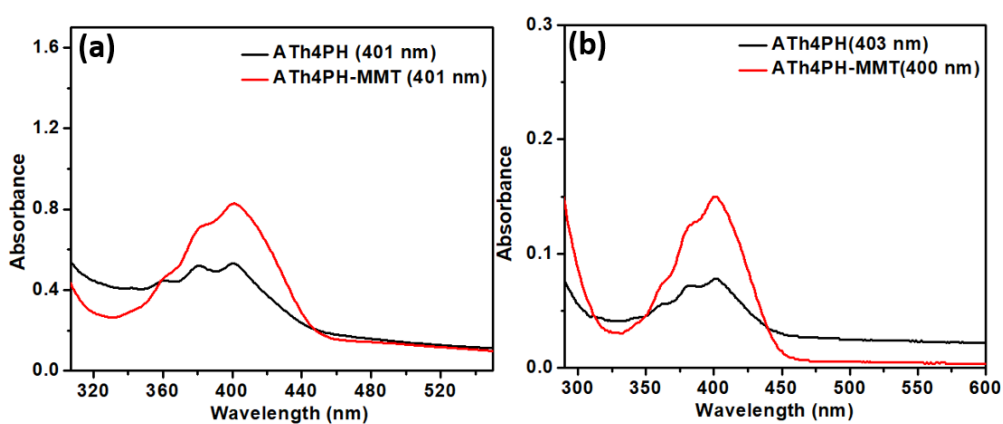


Fig. S5 Absorbance spectra of **ATh4PH** and **ATh4PH-MMT** in **CCl₄** (a) 10^{-4} (M) (b) 10^{-5} (M)

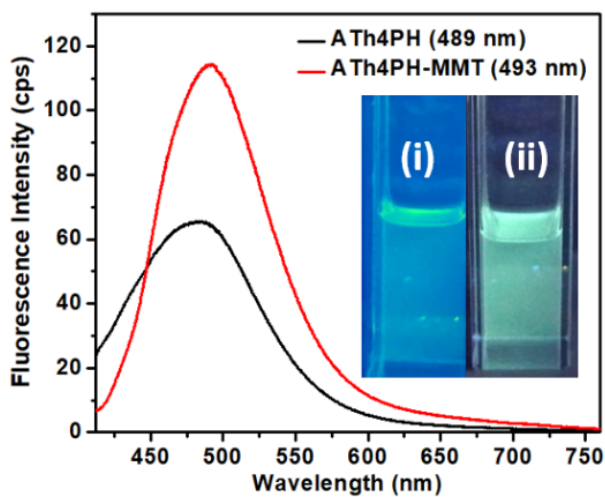


Fig. S6 Emission spectra of **ATh4PH** and **ATh4PH-MMT** in **CCl₄** at 10^{-4} (M)

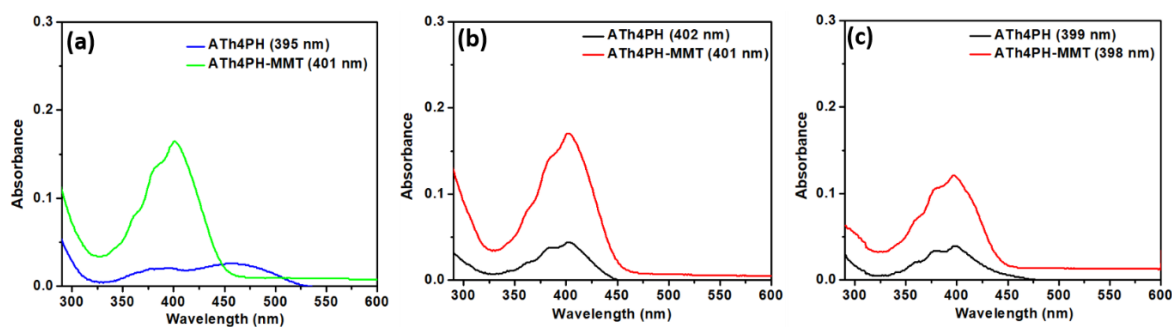


Fig. S7 Absorbance spectra of **ATh4PH** and **ATh4PH-MMT** in 10^{-5} (M) probe concentration (a) CHCl_3 (b) DMSO (c) EtOAc

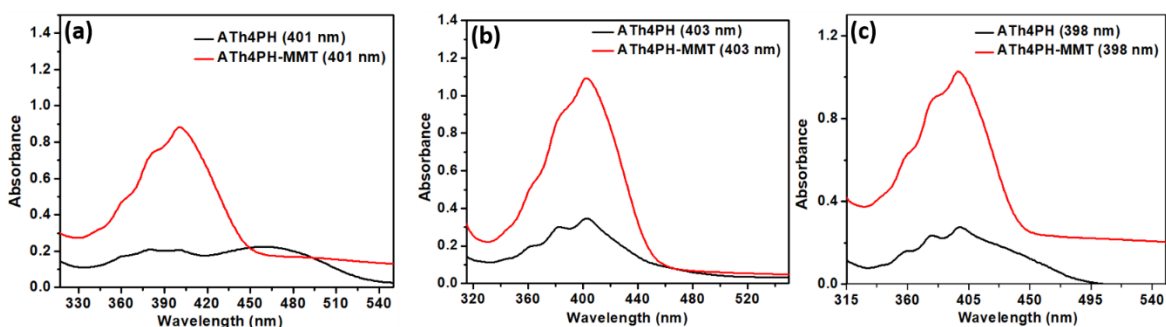


Fig. S8 Absorbance spectra of **ATh4PH** and **ATh4PH-MMT** in 10^{-4} (M) probe concentration (a) CHCl_3 (b) DMSO (c) EtOAc

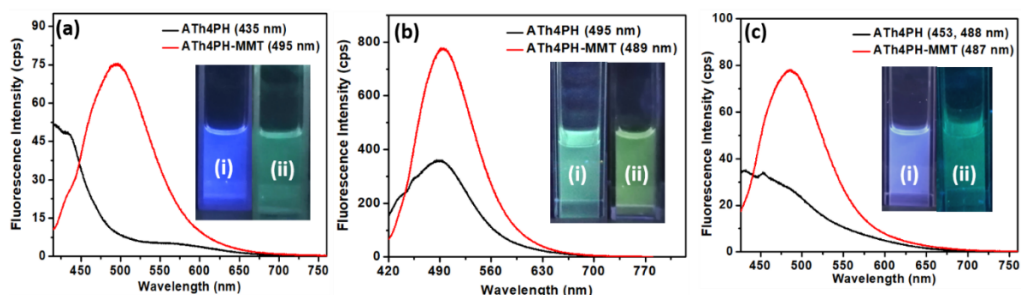


Fig. S9 Emission spectra of **ATh4PH** and **ATh4PH-MMT** in 10^{-4} (M) probe concentration (a) CHCl_3 (b) DMSO (c) EtOAc

Table S1 Lifetime data (ns) and the related parameters of **ATh4PH-MMT** at 10^{-5} (M) concentration in different solvents. $K_r = \Phi_f / \tau$; $K_{nr} = (1 - \Phi_f) / \tau$

Solvent	τ_1	τ_2	τ_3	τ_4	α_1	α_2	α_3	α_4	χ^2	τ (ns)	Φ_f (%)	$k_r (\times 10^6 \text{ s}^{-1})$	$K_{nr} (\times 10^6 \text{ s}^{-1})$	k_r / K_{nr}
Ethanol	0.5141	4.8368	0.0200	-	0.0015	0.0001	0.9982	-	1.0376	0.0217	0.33	15.2073	30.8755	0.4925
CCl_4	0.1551	1.0829	2.3634	0.0527	0.0780	0.0103	0.0049	0.9067	1.0426	0.0828	0.61	7.3494	11.0772	0.6634
CHCl_3	0.3121	1.0431	4.4754	0.0277	0.0051	0.0022	0.0003	0.9923	1.0827	0.0328	0.09	2.7439	27.7439	0.0989
DMSO	1.0612	4.9807	0.0351	-	0.0035	0.0005	0.9959	-	1.0197	0.0414	0.10	2.4154	27.7391	0.0871
EtOAc	0.3496	1.5399	5.1365	0.0248	0.0057	0.0028	0.0010	0.9906	1.0159	0.0359	0.15	4.1783	23.6789	0.1765

END