

Supporting Information

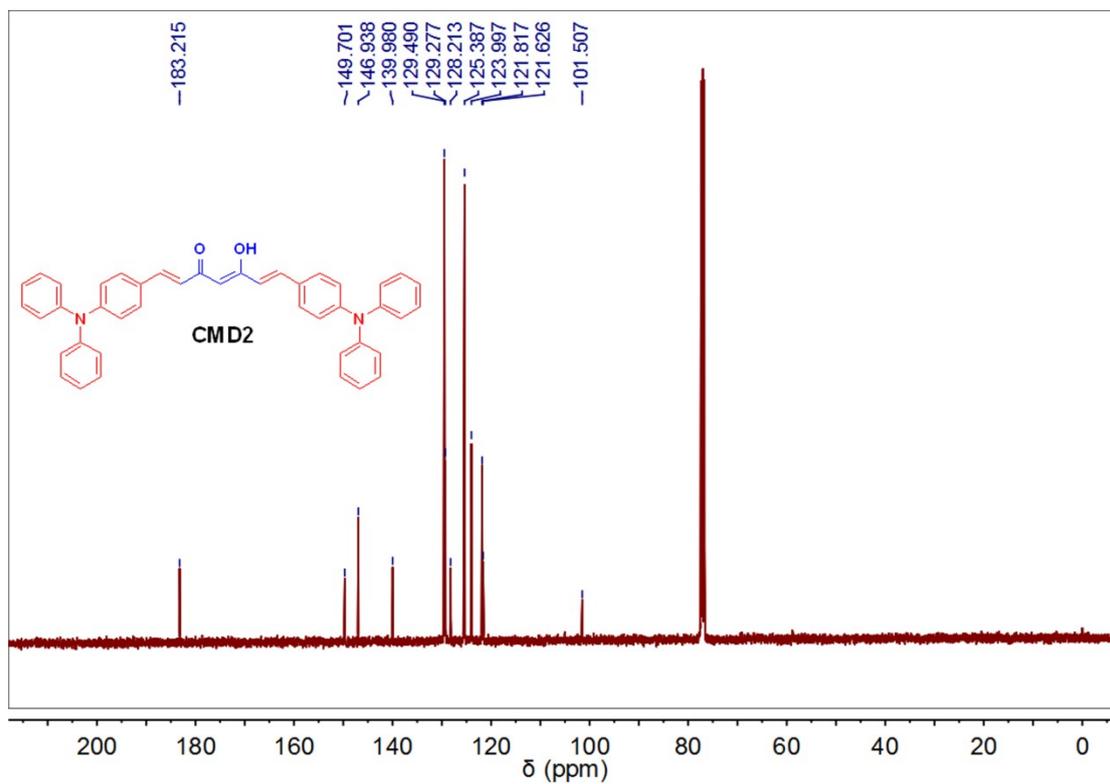
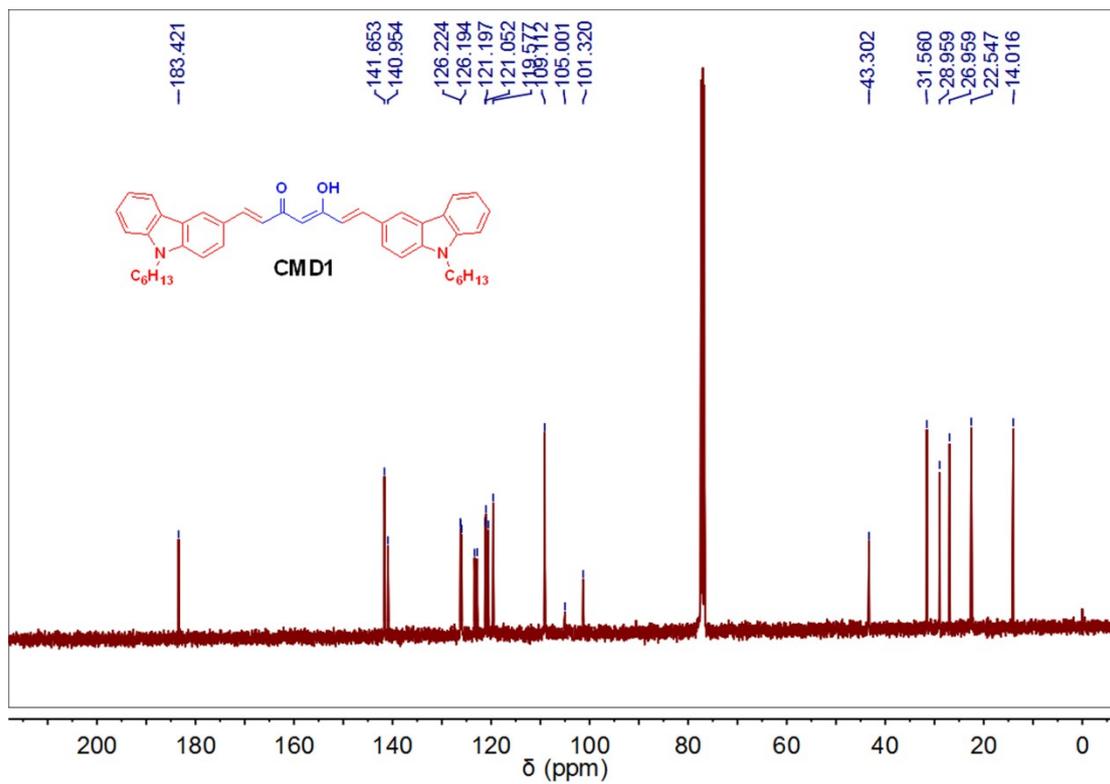
Facilely prepared blue-green light sensitive curcuminoids with excellent bleaching properties as high performance photosensitizers in cationic and free radical photopolymerization

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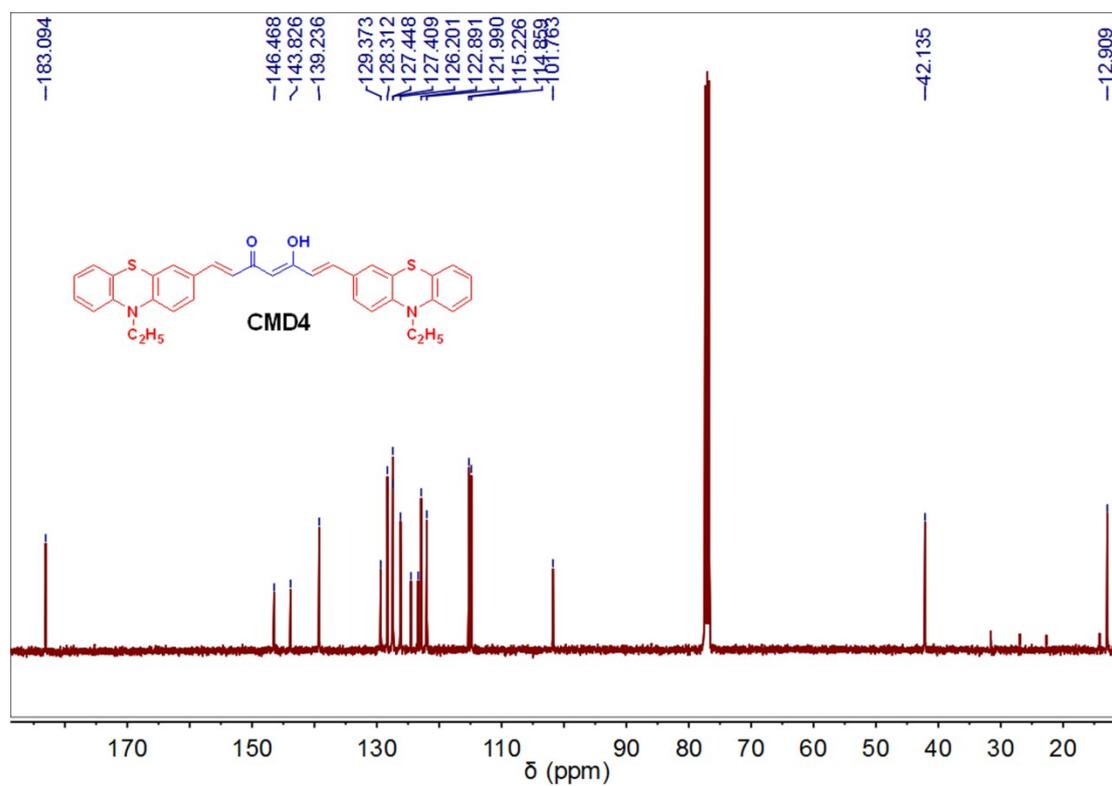
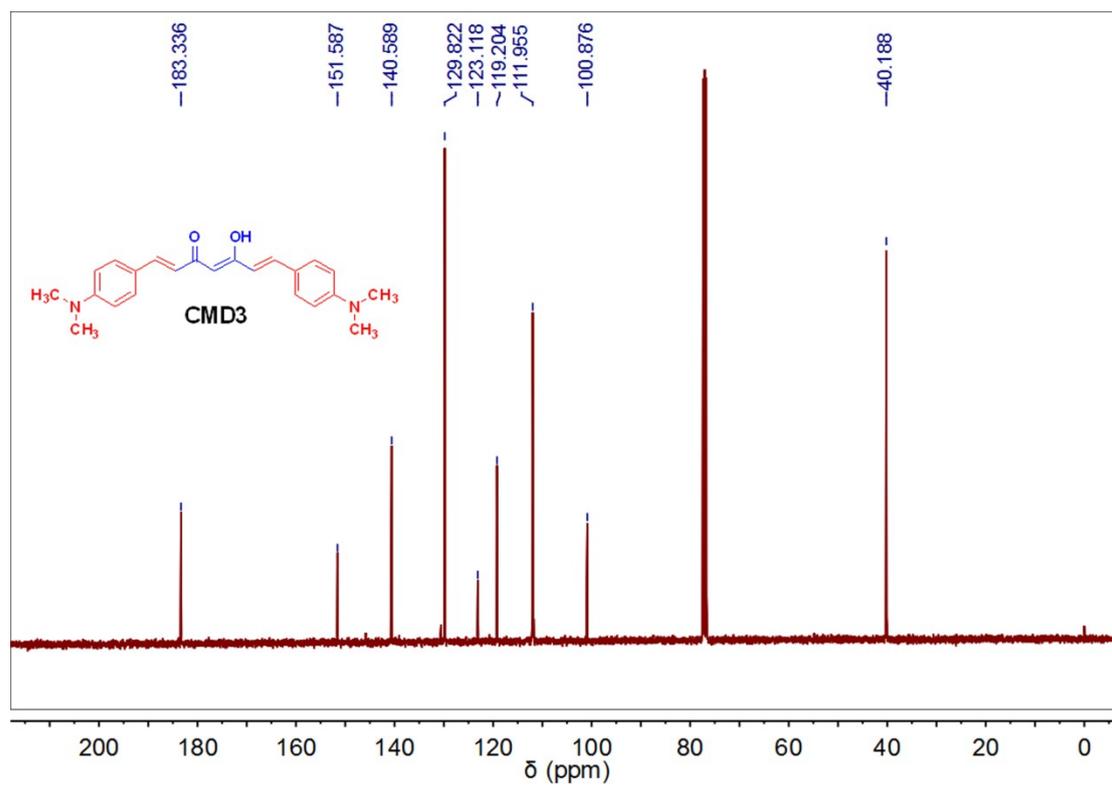
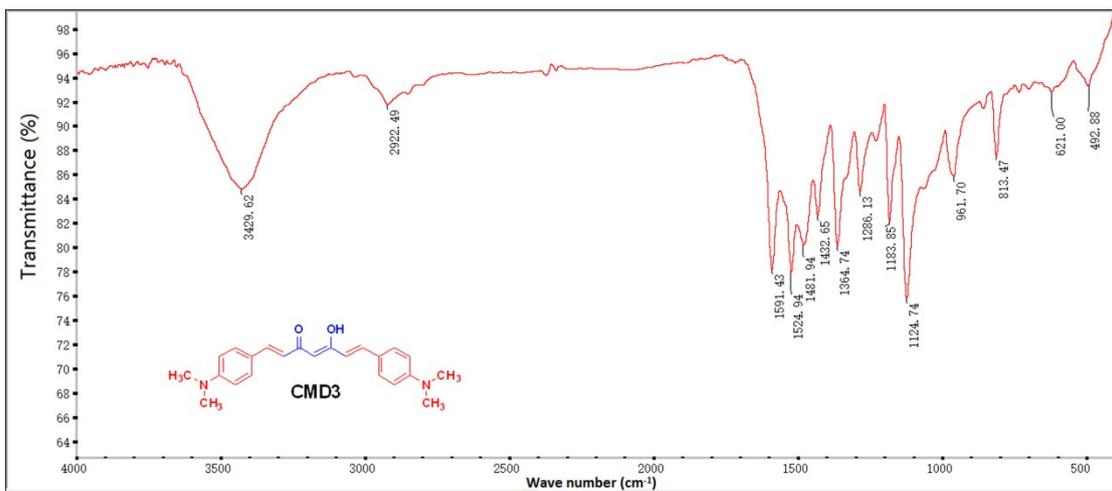
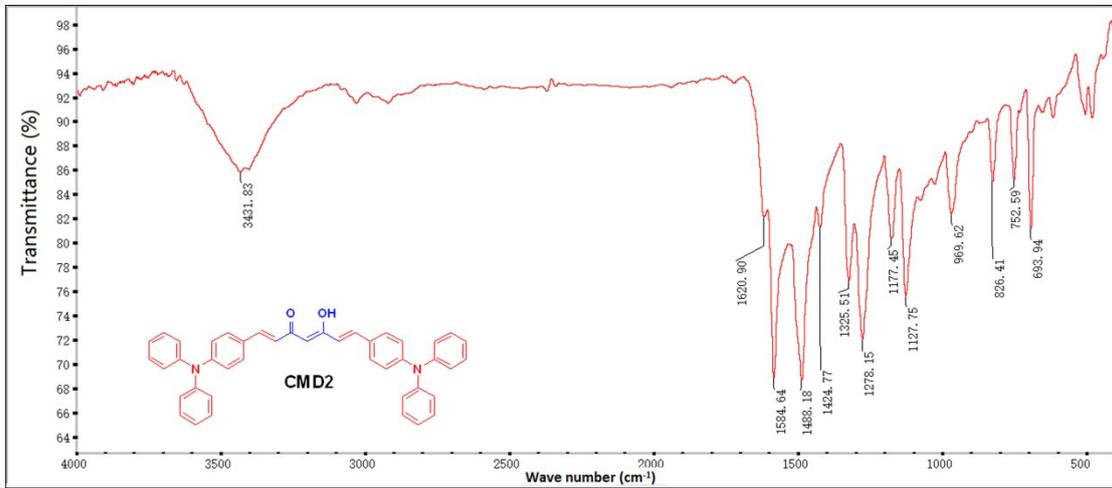
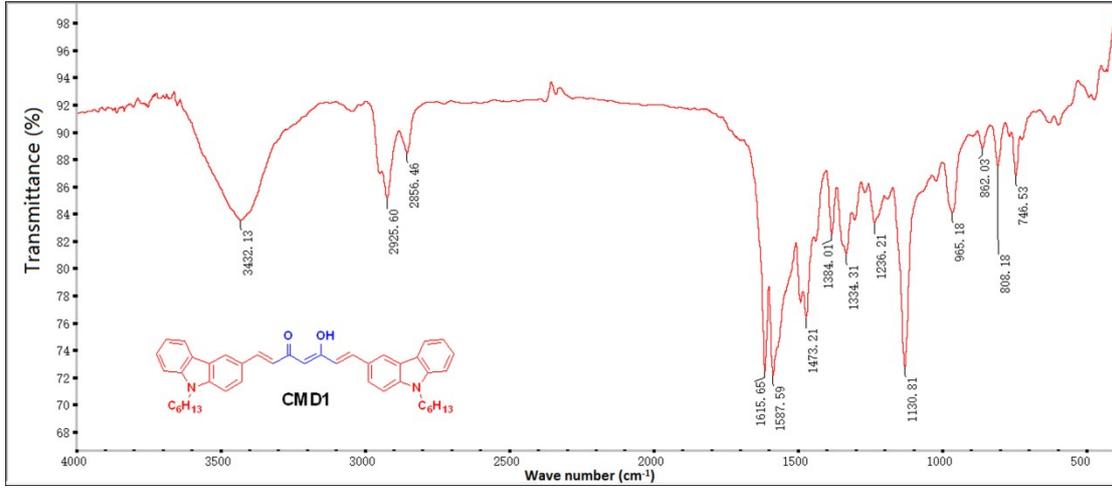


Fig. S1. ¹³C NMR of the CMDs



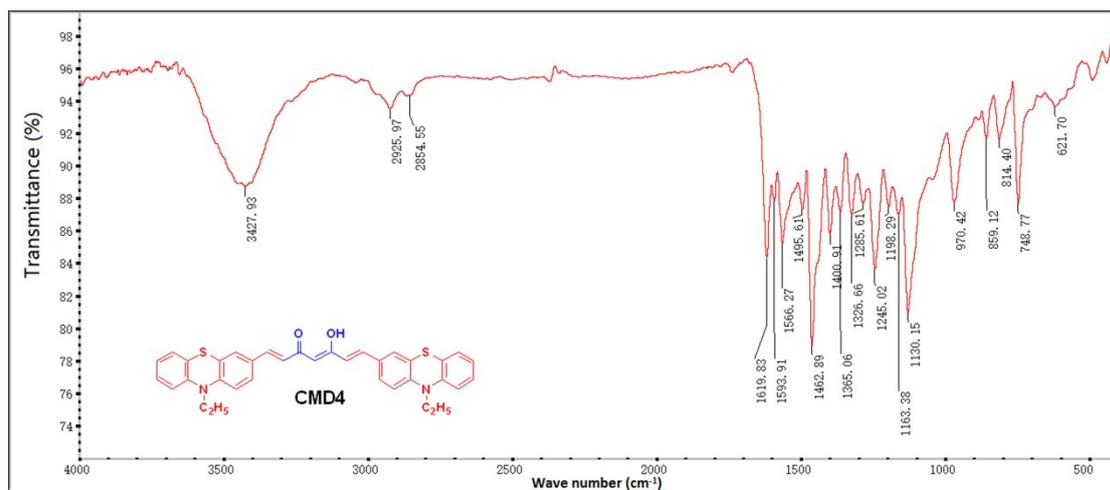


Fig.S2 MIR spectra of the CMDs

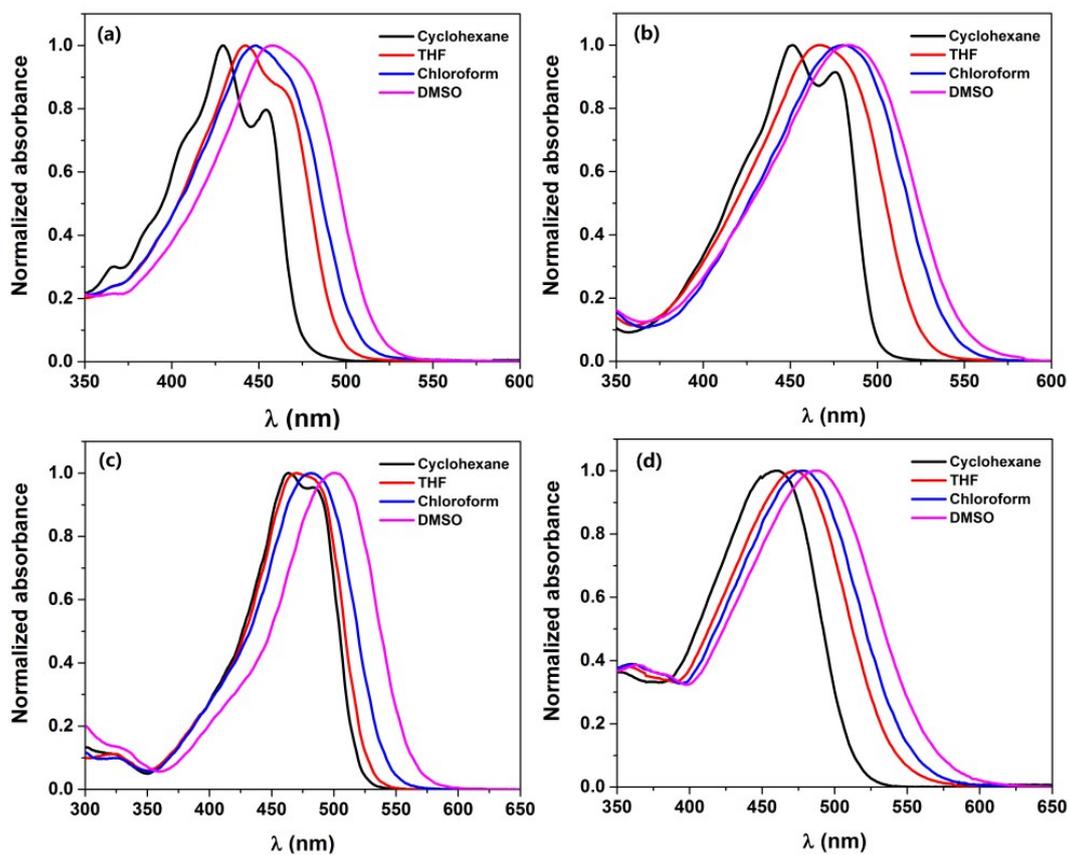


Fig. S3 Normalized UV-vis absorption spectra of CMD1 (a), CMD2 (b), CMD3 (c) and CMD4 (d) in different solvents.

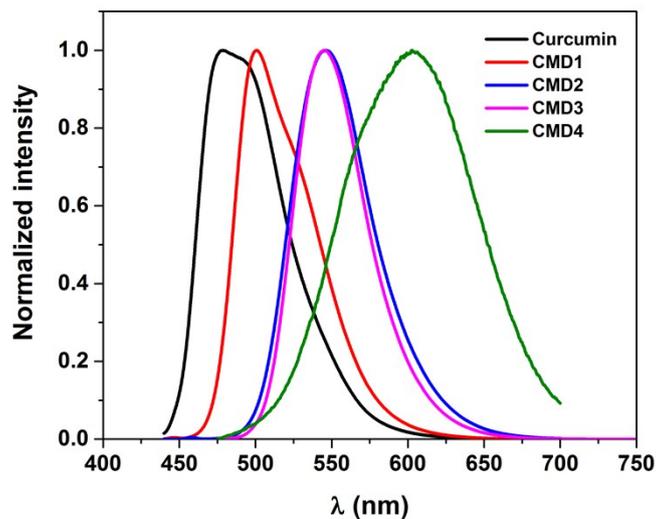


Fig. S4 Normalized fluorescence emission spectra of curcumin and the CMDs in THF.

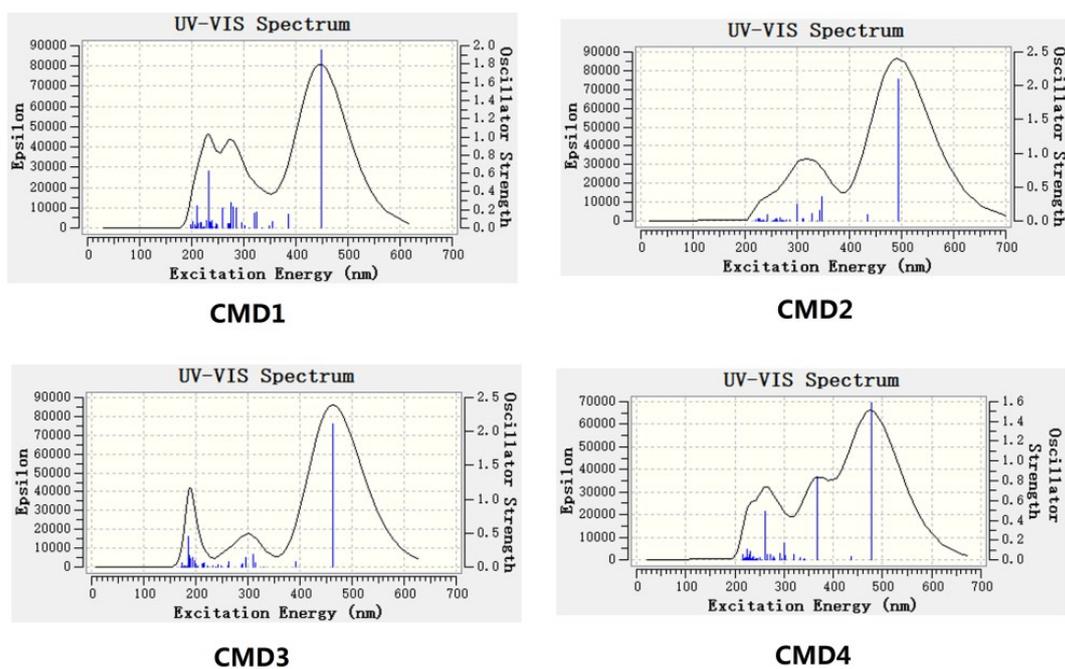
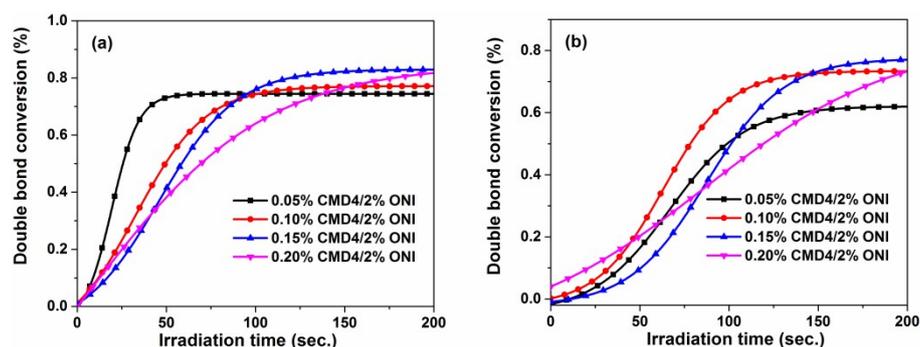
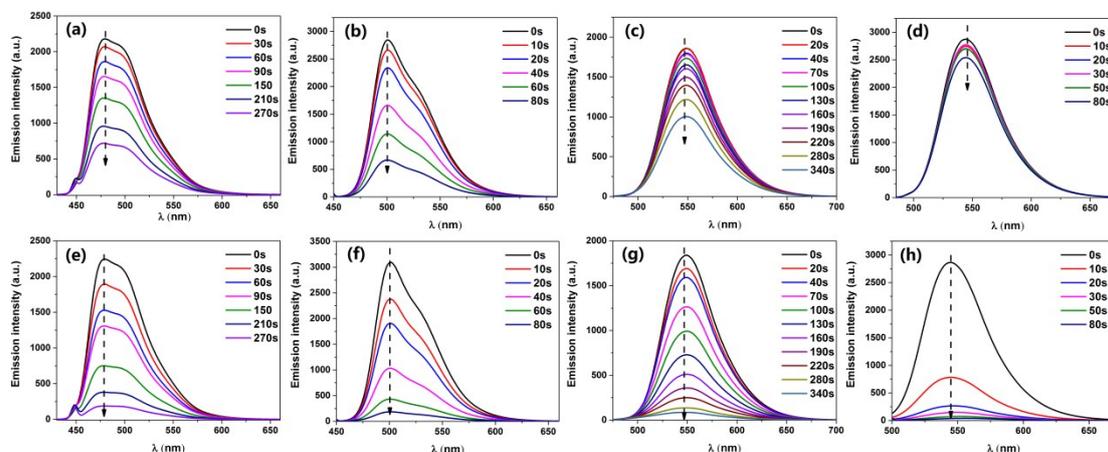


Fig. S5 Calculated UV-visible absorption spectra of the CMDs (TD-DFT, m06/6-31G (d, p), (cpcm, solvent=THF) level of theory).

Table S1 Data on the electron transition of the **CMDs**.

Molecule	state	E (eV)	λ (nm)	f_{os}	Main contribution	
CMD1	1	2.7648	448.44	1.9557	HOMO→LUMO	0.9548
CMD2	1	2.5119	493.58	2.0958	HOMO→LUMO	0.9405
					HOMO-1→LUMO+1	0.0327
CMD3	1	2.6728	463.87	2.1136	HOMO→LUMO	0.9704
CMD4	1	2.5936	478.04	1.5940	HOMO→LUMO	0.9401
					HOMO-1→LUMO+1	0.0322

**Fig. S6** Photopolymerization profiles of TPGDA in the presence of **CMD4/ONI**; (a) under blue LED; (b) under green LED.**Fig. S7** Fluorescence spectra of (a) curcumin, (b) **CMD1**, (c) **CMD2**, (d) **CMD3**, (e) curcumin/ONI, (f) **CMD1/ONI**, (g) **CMD2/ONI**, and (h) **CMD3/ONI** in THF under blue LED exposure at different irradiation times ([curcumin] = 9.06×10^{-6} M, [**CMD1**] = 5.36×10^{-6} M, [**CMD2**] = 5.46×10^{-6} M, [**CMD3**] = 9.21×10^{-6} M, [ONI] = 7.34×10^{-5} M).

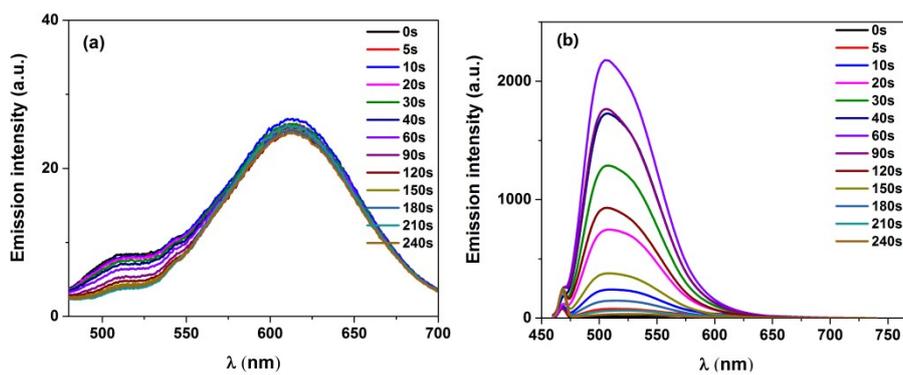


Fig. S8 Fluorescence spectra of (a) **CMD4**, (b) **CMD4/ONI** in THF under the blue LED exposure at different irradiation times ($[\text{CMD4}] = 5.81 \times 10^{-6} \text{ M}$, $[\text{ONI}] = 7.34 \times 10^{-5} \text{ M}$).

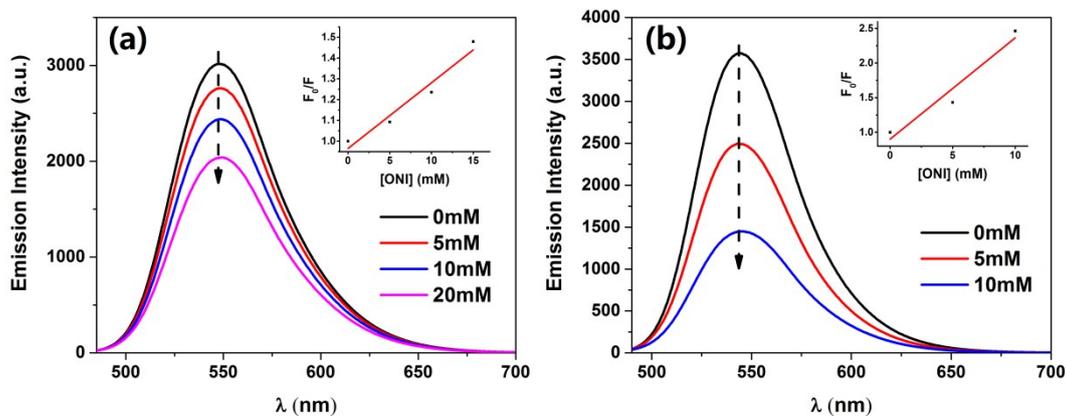


Fig. S9 Fluorescence quenching of **CMD2** (a) and **CMD3** (b) by different concentrations of ONI in THF. Inset: Stern–Volmer plots.

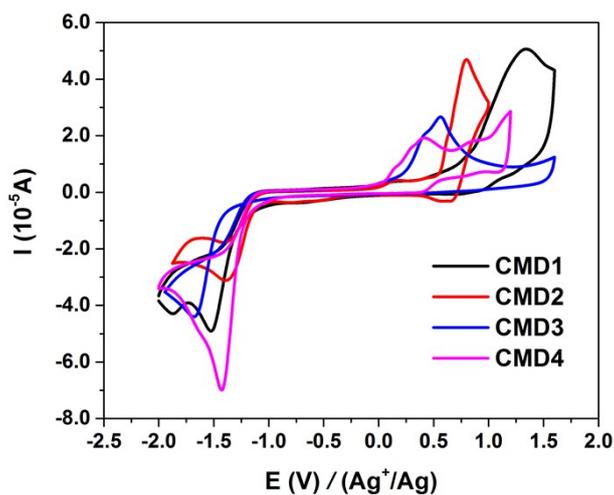


Fig. S10 Cyclic voltammogram curves of the **CMDs** in acetonitrile.