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

Morphology controlled self-assembly of an amphiphilic perylenetetracarboxylic diimide dimer-based semiconductor: from flower clusters to hollow spheres

Liuqun Xu[a], Dameng Gao[a], Jingang Song[b], Li Shen [c], Wenmiao Chen[b], Yanli Chen[a,c,]*, Shuxiang Zhang[a,]*

[a]*Shandong Provincial Key Laboratory of Fluorine Chemistry and Chemical Materials, School of Chemistry and Chemical Engineering, University of Jinan, Jinan 250022, China*

[b]*Department of Chemistry, Shandong University, Jinan 250100, China*

[c] *School of Science, China University of Petroleum, Qingdao 266580, China.*

---

* *Corresponding authors. Tel.: +86 (0)531 8973 6150, Fax: +86(0)531 8276 5969.*

E-mail address: chm_chenyl@ujn.edu.cn; (Y. Chen), chm_zhangsx@ujn.edu.cn, (S. Zhang)

Table S1 Peak positions of absorption (λ_{abs}) for **2PDIF-TAZ** in THF and the self-assembled **2PDIF-TAZ** micro-flower clusters, micro-bowknots, and nano-hollow spheres dispersed in water.

	λ_{abs} (nm)			
2PDIF-TAZ	THF solution	Flower clusters	Bowknots	Hollow spheres
	445, 533, 573	476, 565, 621	479, 566, 634	466, 557, 607

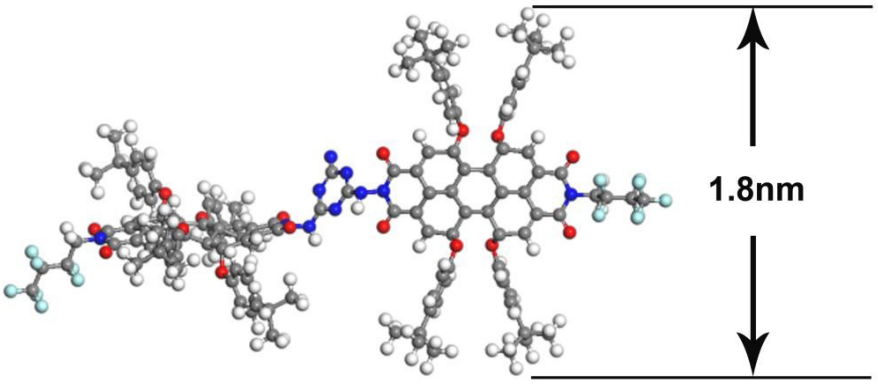

Fig. S1 Energy-minimized molecular structure of 2PDIF-TAZ.

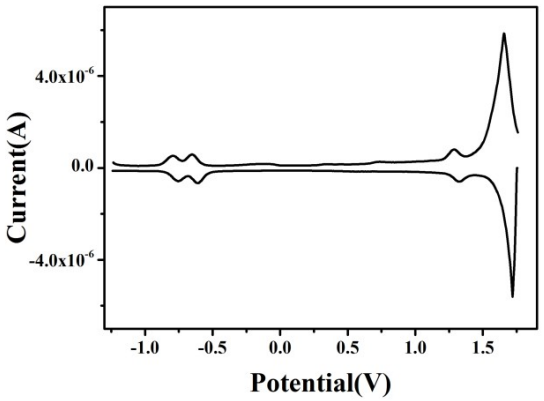

Fig. S2 Differential pulse voltammogram (DPV) of **2PDIF-TAZ** in CH_2Cl_2 containing 0.1 M $[NBu_4][ClO_4]$ at a scan rate of 10 mV s^{-1}.

Table S2 Half-wave redox potentials of **2PDIF-TAZ** (V vs SCE) in CH_2Cl_2 containing 0.1M TBAP and the HOMO, LUMO levels of **2PDIF-TAZ**.

Compound	Oxd_2 /V	Oxd_1 /V	Red_1 /V	Red_2 /V	E_{HOMO} /eV[a]	E_{LUMO} /eV[a]
2PDIF-TAZ	1.69	1.30	–0.63	–0.78	–5.74	–3.81

[a] Calculated from empirical formula [1]: HOMO = –(Oxd_1+4.44 eV); LUMO = –(Red_1+4.44 eV).

References

1 Y. Chen, L. Chen, G. Qi, H. Wu, Y. Zhang and L. Xue, *Langmuir,* 2010, 26: 12473.