

Supplementary Materials

Novel Aggregation-Induced Emission Materials/Cadmium Sulfide Composite Photocatalyst for Efficient Hydrogen Evolution in Absence of Sacrificial Reagent

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DFT Calculation of Band Structure of TEP-Ca



 $[\]Delta E_{ST} = 0.26 \text{ eV}$

Figure S1. Frontier molecular orbital distributions and energy level diagram of TPE-Ca obtained by DFT calculations (B3LYP/6–31G*).



X-Ray Single-Crystal Diffraction of TEP-Ca

Parameter	TPE-Ca
Empirical formula	C53H36N2
Formula weight[g mol ⁻¹]	700.84
Crystal system	monoclinic
Space group	P 1 21/n 1
<i>A</i> [Å]	19.8975(12)
<i>B</i> [Å]	9.0425(6)
<i>C</i> [Å]	21.1651(13)
α [°]	-
β[°]	92.499(2)
γ[°]	
Volume [Å ³]	3804.5(4)
Ζ	4
Density, calcd [g m ⁻³]	1.224
Temperature [K]	220
Unique reflns	6845
ObsdrefIns	7994
Parameters	496
Rint	0.0636
$R[I > 26(I)]^{a}$	0.1698
$wR[I > 2(I)]I^{b}$	0.1830
GOF on F ²	1.024

Table S1. The main parameters of TEP-Ca.



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