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Electronic Supporting Information

Construction of regio- and stereoregular poly(enaminone)s by multicomponent tandem polymerizations of diynes, diaroyl chloride and primary amines

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Table contents

Table S1 Crystal data and structure refinement for model compound **4**.

Empirical formula	$C_{41}H_{37}NO$	
Formula weight	559.72	
Temperature	99.9(3) K	
Wavelength	1.5418 Å	
Crystal system	Triclinic	
Space group	P-1	
Unit cell dimensions	a = 9.8924(6) Å	α= 91.437(4)°.
	b = 10.2910(7) Å	β= 94.959(4)°.
	c = 15.6015(6) Å	γ = 101.331(5)°.
Volume	1550.04(15) $Å^3$	
Z	2	
Density (calculated)	1.199 Mg/ m^3	
Absorption coefficient	0.540 mm^{-1}	
F(000)	596	
Crystal size	0.15 × 0.12 × 0.12 mm^3	
Theta range for data collection	4.39 to 67.97°.	
Index ranges	-11<=h<=11, -12<=k<=12, -18<=l<=13	
Reflections collected	8563	
Independent reflections	5512 [R(int) = 0.0402]	
Completeness to theta = 66.50°	98.50 %	
Absorption correction	Semi-empirical from equivalents	
Max. and min. transmission	1.00000 and 0.82158	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	5512 / 0 / 388	
Goodness-of-fit on F^2	1.002	
Final R indices [I>2sigma(I)]	R1 = 0.0453, wR2 = 0.1200	
R indices (all data)	R1 = 0.0546, wR2 = 0.1270	
Largest diff. peak and hole	0.196 and -0.258 $e.Å^{-3}$	

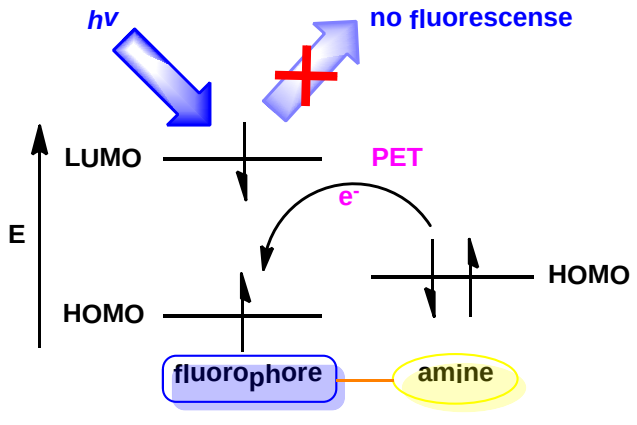

Fig. S1 Frontier orbital theory for the PET effect.

Table S2 The quantum yields of **4** and P**1a**–**b**/**2**/**3a**–**b** in solution and aggregate state.

compd	Φ_F[a] (%)	
	soln	aggr
4	0.05	1.05
P**1a**/**2**/**3a**	0.30	1.16
P**1b**/**2**/**3a**	0.21	0.61
P**1a**/**2**/**3b**	0.20	0.55

[a]Φ_F = fluorescence quantum yield (%) in dilute THF solution (soln) and THF/water mixture with 90% water fraction (aggr) determined by a calibrated integrating sphere, respectively. Solution concentration: 100 μM.