Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting information

Development of biodegradable polyesters based on hydroxylated coumarin initiator towards fluorescent visible paclitaxel-loaded microspheres

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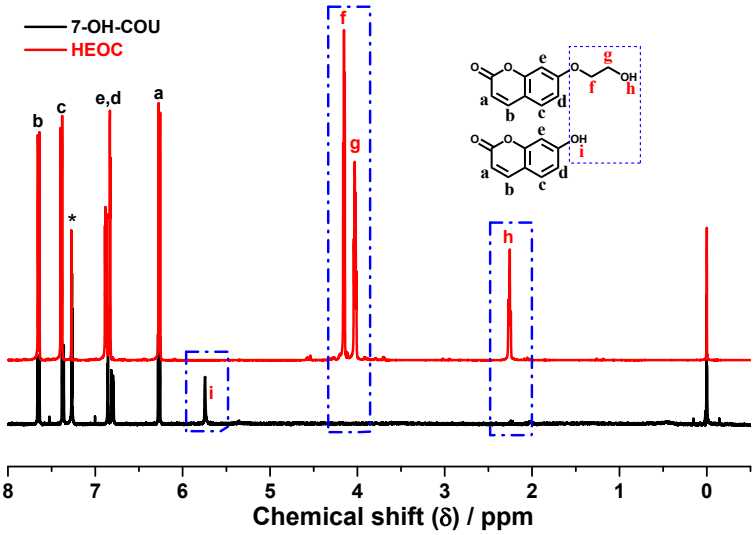

Figure S1. ^{1}H NMR spectra of HOEC and 7-OH-COU

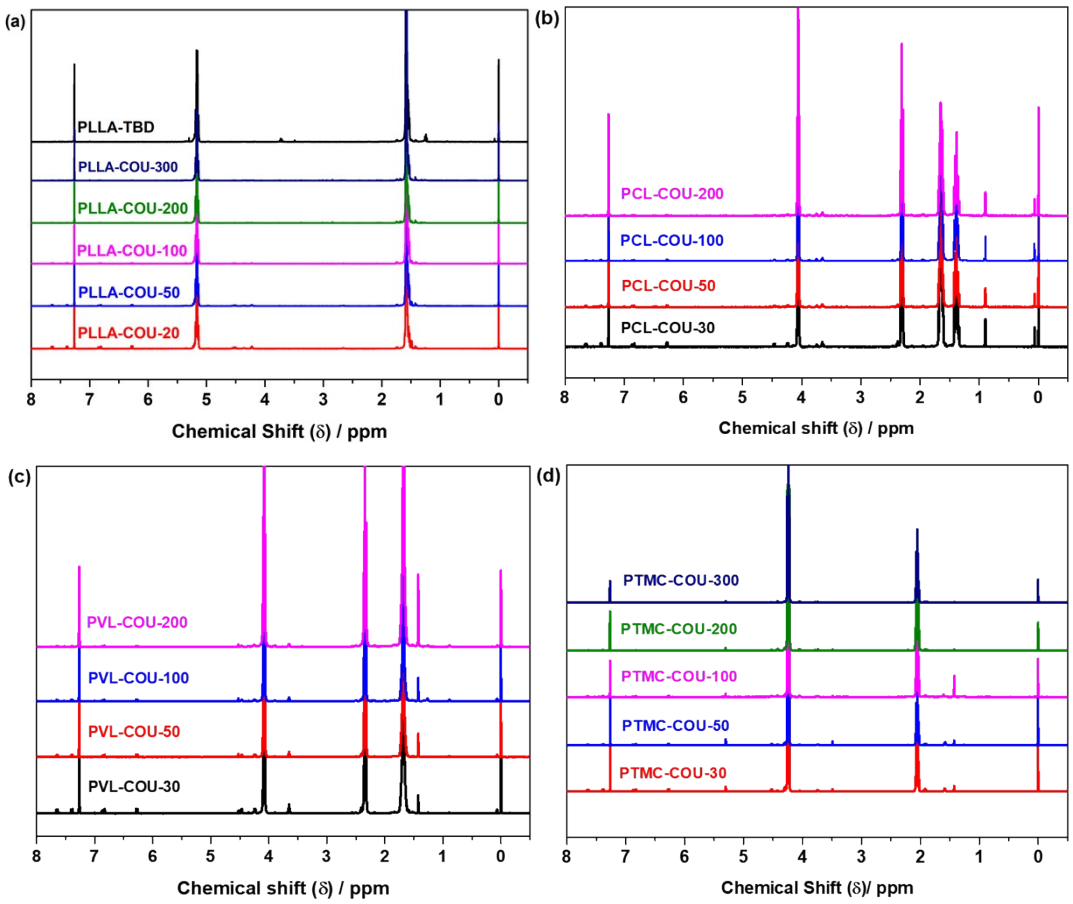

Figure S2 ^{1}H NMR spectra of fluorescent polyesters initiated directly by hydroxylated coumarin with different ratio of monomer and OH

(a) PLLA-COU (b) PCL-COU (c) PVL-COU (d) PTMC-COU

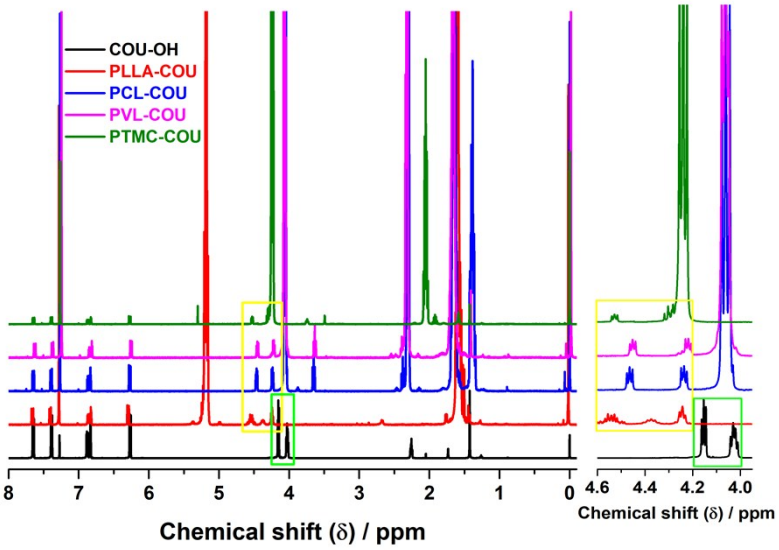

Figure S3. ^{1}H NMR spectra of COU-OH and fluorescent polyesters initiated directly by hydroxylated coumarin

Table S1 Thermal properties of fluorescent polyesters initiated directly by hydroxylated coumarin with different ratio of monomer and OH

Sample	T_g[a] (°C)	OP[b] (%)
PLLA-TBD	48.98	83.7
PLLA-COU-20	52.5	90.1
PLLA-COU-50	53.65	82.9
PLLA-COU-100	54.76	83.5
PLLA-COU-200	53.36	85.0
PLLA-COU-300	55.24	84.6
Sample	T_c[a] (°C)	T_m[a] (°C)
PCL-COU-30	29.1	53.6
PCL-COU-50	29.8	54.5
PCL-COU-100	31.3	56.7
PCL-COU-200	31.0	58.3
PVL-COU-30	31.09	54.86
PVL-COU-50	31.49	56.41
PVL-COU-100	30.78	57.98
PVL-COU-200	30.43	58.03

Note: [a] measured by DSC, heating rate is 10°C/min.

[b] measured by polarimeter with $CHCl_3$ as solvent, C=10mg/ml, $[\alpha]_{(PLLA)}$=-156°.

$$OP = \frac{[\alpha]}{[\alpha]_{(PLLA)}} \times 100\%$$

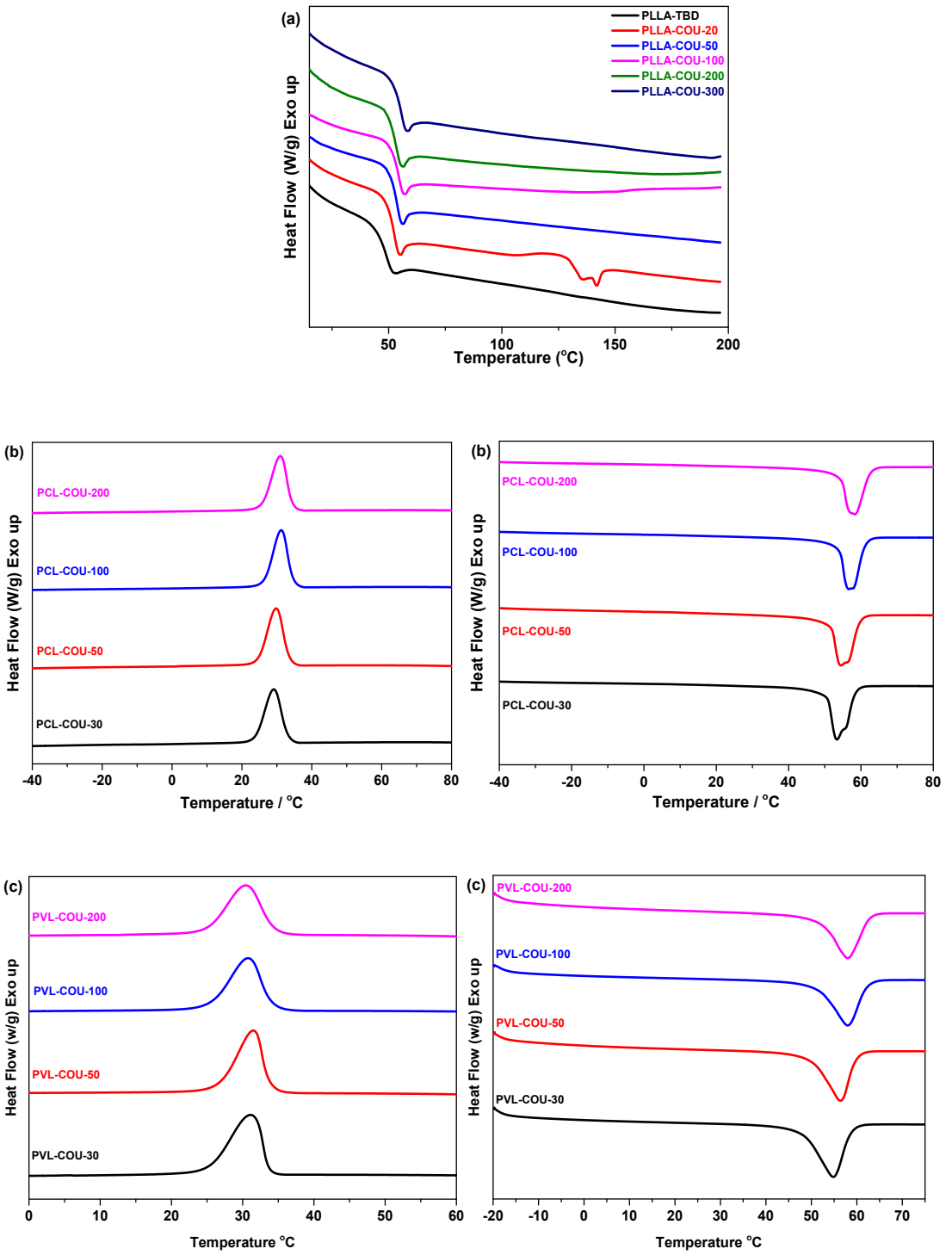

Figure S4 DSC curves of fluorescent polyesters with different ratio of monomer and hydroxylated coumarin

(a) PLLA-COU (b) PCL-COU (c) PVL-COU

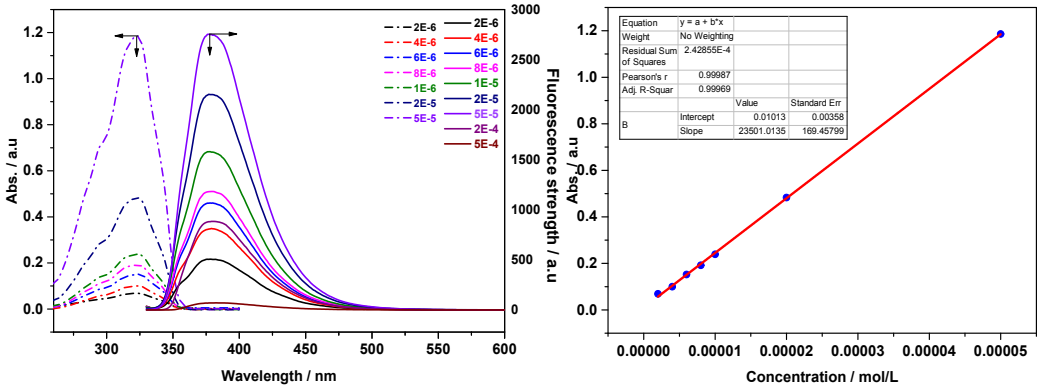

Figure S5 UV and FL curves of COU-OH in $CHCl_3$ and stander curves

The standard curve was measured by UV-Vis spectrometer in $CHCl_3$. The standard curve of hydroxylated coumarin is as follow:

$$A = 23501 \times C + 0.01 \quad R^2 = 0.9999$$

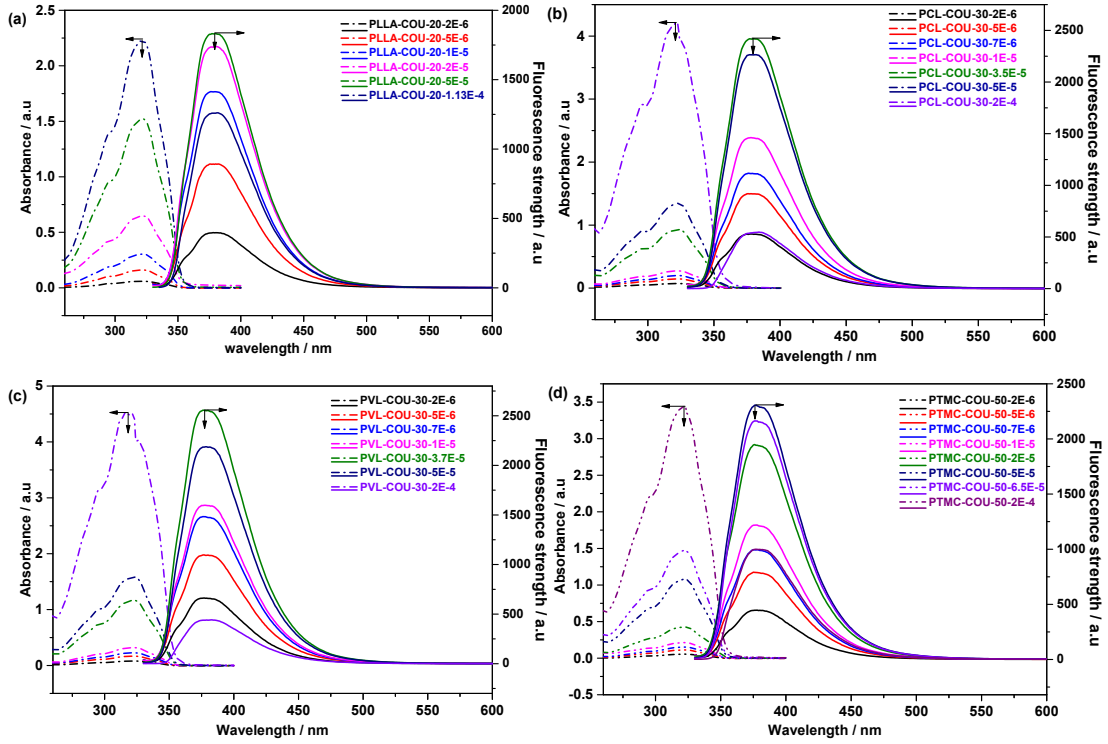

Figure S6 UV and FL curves of different concentration fluorescent polyesters initiated directly by hydroxylated coumarin (dash is UV and solid is FL curves)

(a) PLLA-COU (b) PCL-COU (c) PVL-COU (d) PTMC-COU