Electronic Supplementary Information for

Solubilisation of [60]fullerenes using block copolymers and evaluation of their photodynamic activities

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Table S1. Absorbance and Solubility of $BPMIC_{60}$

Polymer	Abs_{340}	$[C_{60}]^a$ / mM
1	0.71	0.35
2	0.76	0.38
3	0.86	0.43
4	0.73	0.37
5	0.37	0.18

[a] Concentrations of C_{60} were determined using a molar extinction coefficient for the aggregation state of C_{60}·γ-CDx complex of $\varepsilon_{340} = 2.0 \times 10^4$ M^{-1} cm^{-1}.

Table S2. Solubility and average particle size of $BPMIC_{60}$ after storage for four months

Polymer	$[C_{60}]^a$ / mM	Average particle size / nm
1	0.35	118
2	0.37	102
3	0.41	76
4	0.35	83
5	0.17	145

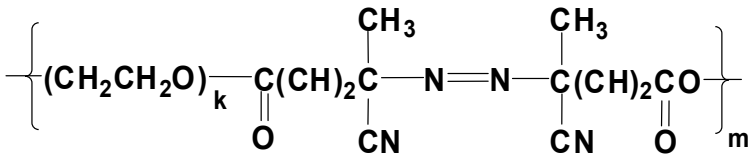
[a] Concentrations of C_{60} were determined using a molar extinction coefficient for the aggregation state of C_{60}·γ-CDx complex of $\varepsilon_{340} = 2.0 \times 10^4$ M^{-1} cm^{-1}.

Table S3. Percentages of cells stained with PI.

Polymer	C_{60}	Light	Incubation time after photoirradiation / h	Nonviable cell %
1	○	—	—	0.3 ± 0.6
	○	○	0	14.6 ± 7.0
	○	○	24	65.7 ± 4.3
	—	—	—	0.0 ± 0.0
	—	○	0	0.0 ± 0.0
	—	○	24	1.0 ± 0.7
2	○	—	—	0.9 ± 1.7
	○	○	0	59.1 ± 5.7
	○	○	24	87.0 ± 8.6
	—	—	—	0.1 ± 0.1
	—	○	0	0.0 ± 0.0
	—	○	24	0.7 ± 0.2
3	○	—	—	0.3 ± 0.3
	○	○	0	82.4 ± 10.4
	○	○	24	98.7 ± 1.6
	—	—	—	0.1 ± 0.2
	—	○	0	0.1 ± 0.1
	—	○	24	1.3 ± 1.3
4	○	—	—	0.5 ± 1.3
	○	○	0	0.4 ± 0.8
	○	○	24	0.7 ± 0.8
	—	—	—	0.0 ± 0.0
	—	○	0	0.3 ± 0.3
	—	○	24	0.7 ± 0.4
5	○	—	—	0.3 ± 0.7
	○	○	0	0.1 ± 0.1
	○	○	24	0.9 ± 0.8
	—	—	—	0.1 ± 0.1
	—	○	0	0.0 ± 0.0
	—	○	24	0.6 ± 0.7

Table S4. Molecular weight and polydispersity data for BP

BP	M_n/g mol^{-1}	M_w/M_n (GPC)
1	4,526	1.50
2	4,786	1.52
3	5,057	1.65
4	7,997	1.29
5	42,747	1.11



Scheme S1. Scheme of VPE-0201

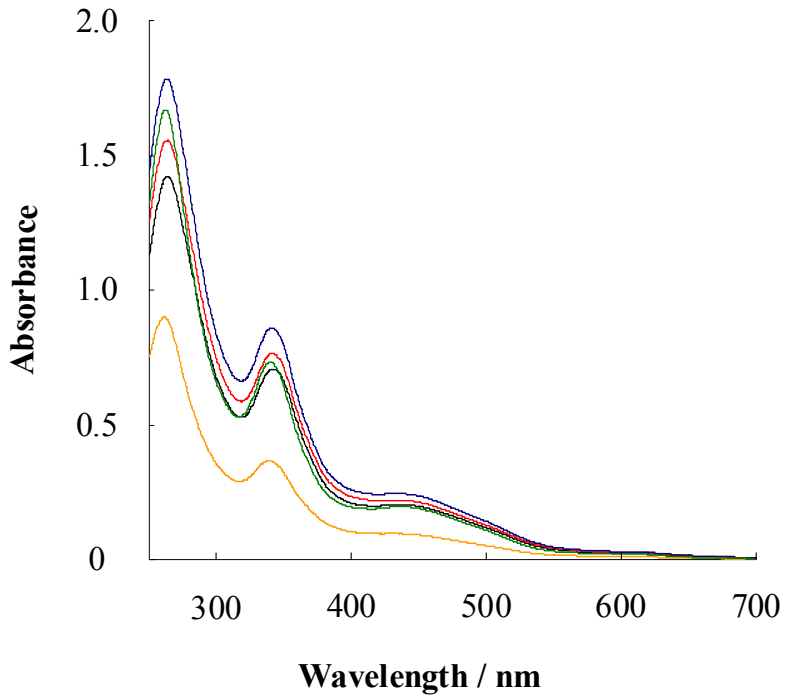


Fig. S1. UV-Vis absorption spectra of the $BPMIC_{60}$ fullerenes of (a) **1** (black line), (b) **2** (red line), (c) **3** (blue line), (d) **4** (orange line) and (e) **5** (green line). All spectra were measured at 25°C (1mm-cell).

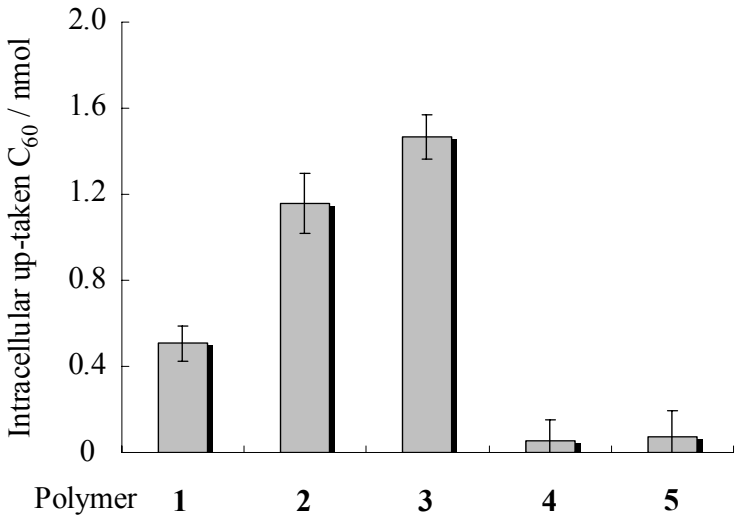


Fig. S2. Intracellular uptake of $BPMIC_{60}$. HeLa cells were incubated with $[C_{60}]$ = 2.5 μM of $BPMIC_{60}$ for 24 h. After incubation, the culture medium was collected and the reduction of $BPMIC_{60}$ in culture medium was determined by monitoring the absorbance at 340 nm (10 mm-cells). The amount of intracellular up-taken C_{60} was counted using $\varepsilon_{340} = 2.0 \times 10^4\ M^{-1}\ cm^{-1}$. Each value presented is the mean (±SD) of three experiments.