Supplementary materials

Fig.S1 Synthetic scheme of (A) Phe-TPGS and (B) Val-TPGS.

Fig.S2 ^{1}H-NMR spectra of (A) Cbz-Phe-TPGS, (B) Cbz-Val-TPGS, (C) Phe-TPGS and (D) Val-TPGS (ppm, in $CDCl_3$).

Fig. S3 The CMC of Val-TPGS, Phe-TPGS and TPGS using pyrene fluorescence technique. Intensity ratios of excitation I_{375}/I_{386} are plotted with logarithm of copolymer concentration at emission of 338 nm. (Final concentration of pyrene was set 3×10-7 mol/L).

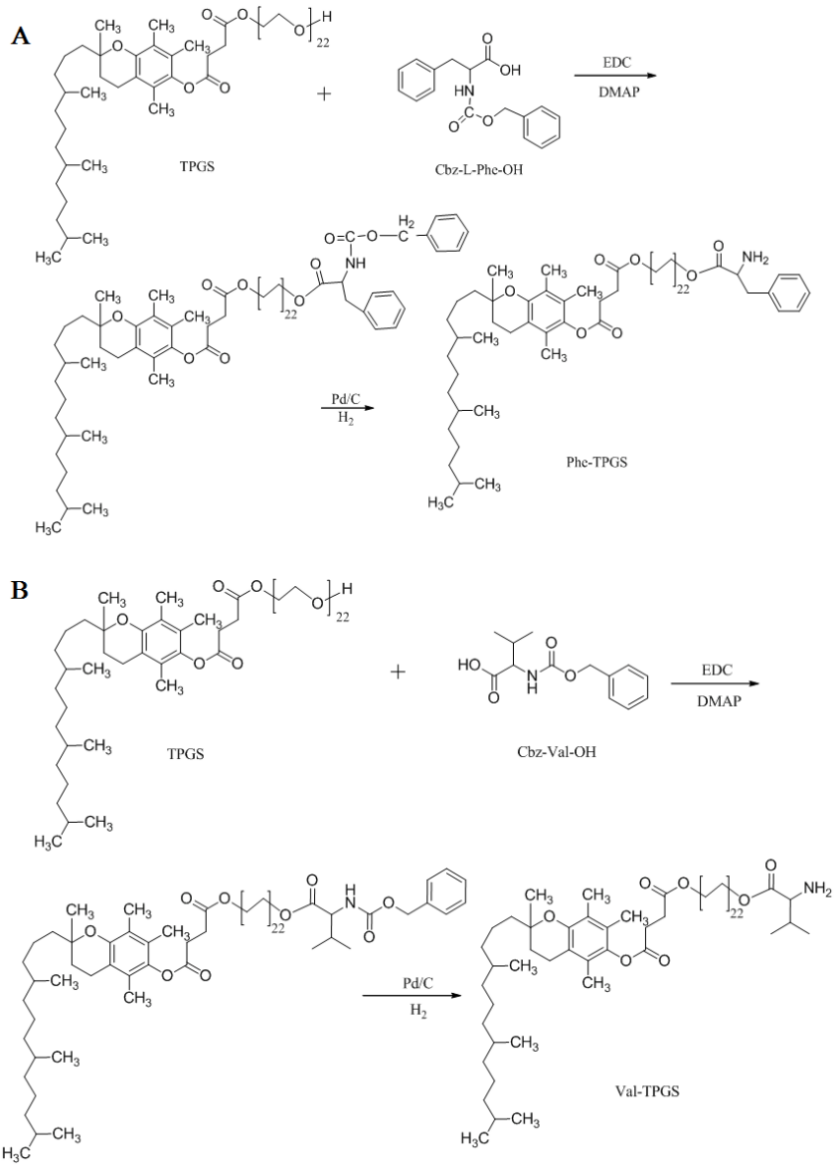
Fig.S4 (A) the size distribution of TP-PMs and Val-PMs. (B) TEM of TP-PMs and Val-PMs (scale bar= 50 nm).

Fig. S5 The storage stability of Cur-PMs at 4 °C and room temperature over 15 days. The changes of (A) the particle size and (B) the content of Cur-PMs over 15 days (Mean±SD, n=3).

Fig. S6 The endocytosis mechanism of (A) Phe-PMs and (B) TP-PMs in LP cells (Mean±SD, n=3, $^{**}P<0.01$ vs control).

Table S1 Pharmacokinetic parameters of Cur after oral administration of Cur-PMs in cylcoheximide (CHM) treated rats (n=3).

Table S2 Pharmacokinetic parameters of Cur in rats after oral administration of Cur-Sol, TP-PMs, Val-PMs and Phe-PMs (n=5).



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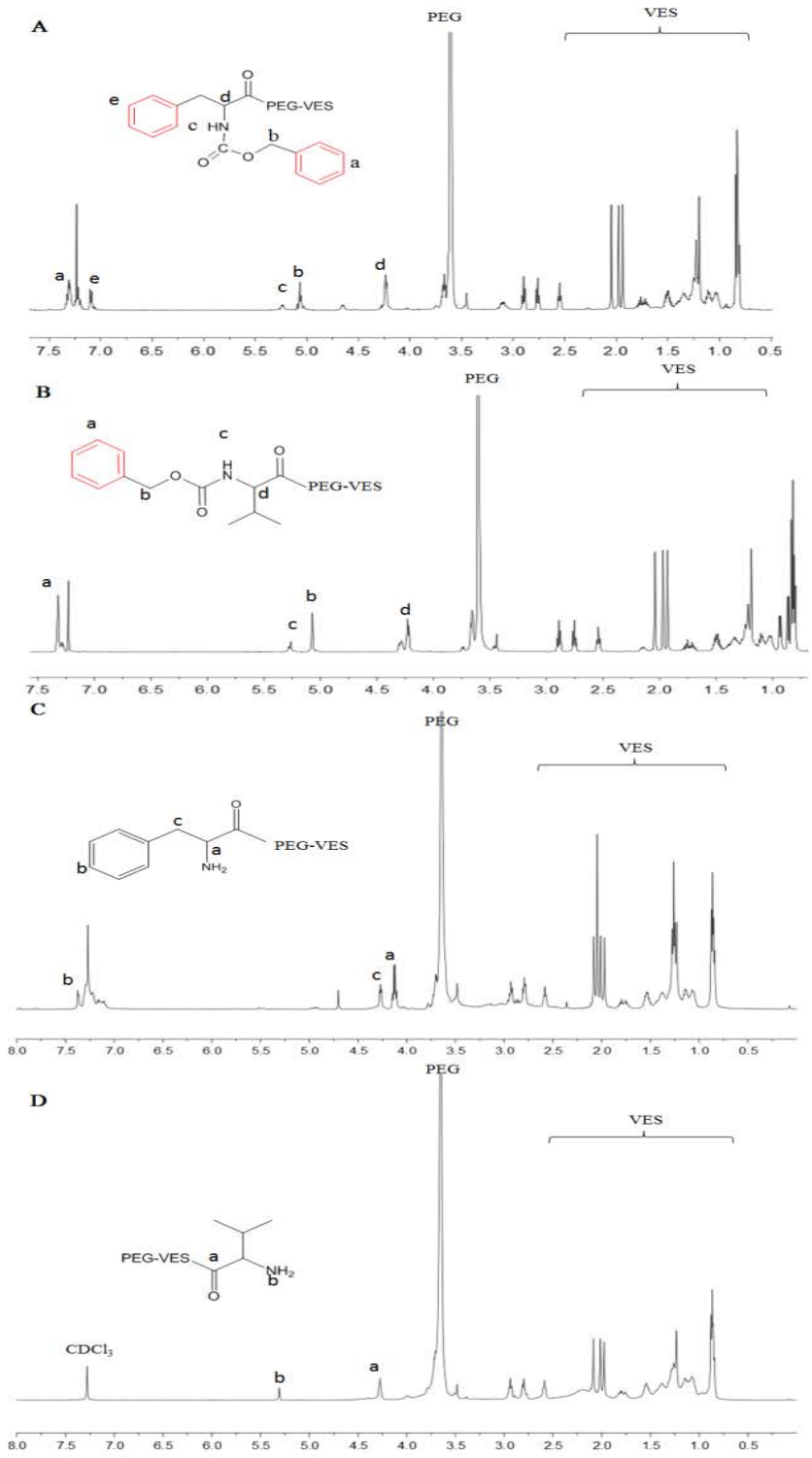

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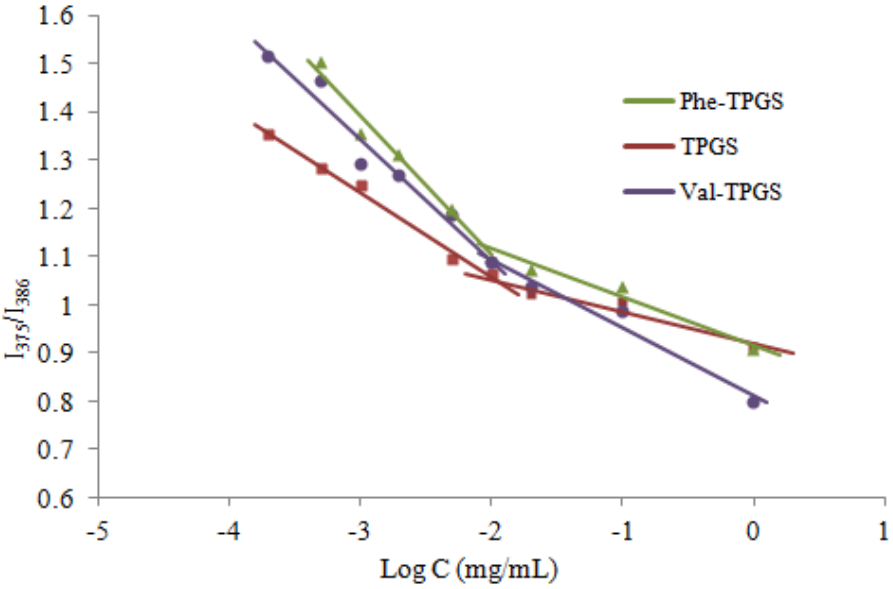

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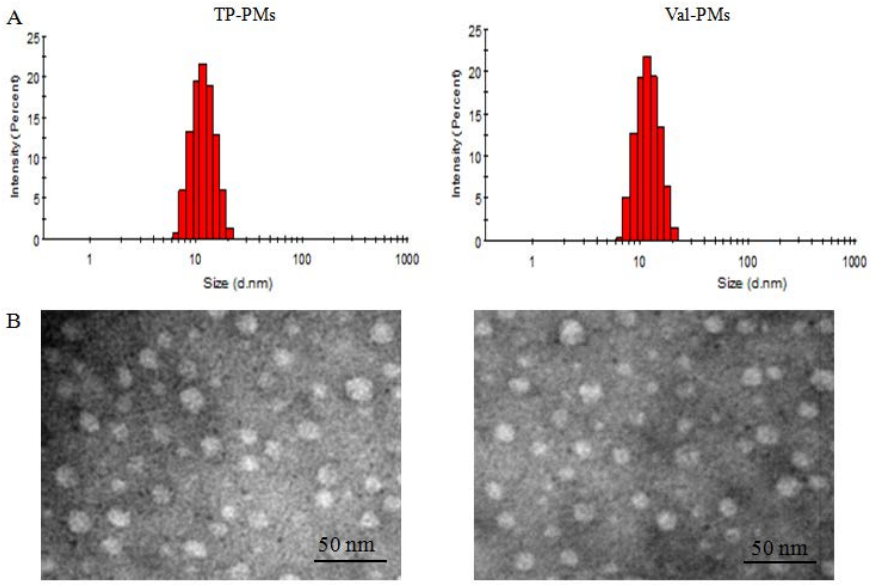

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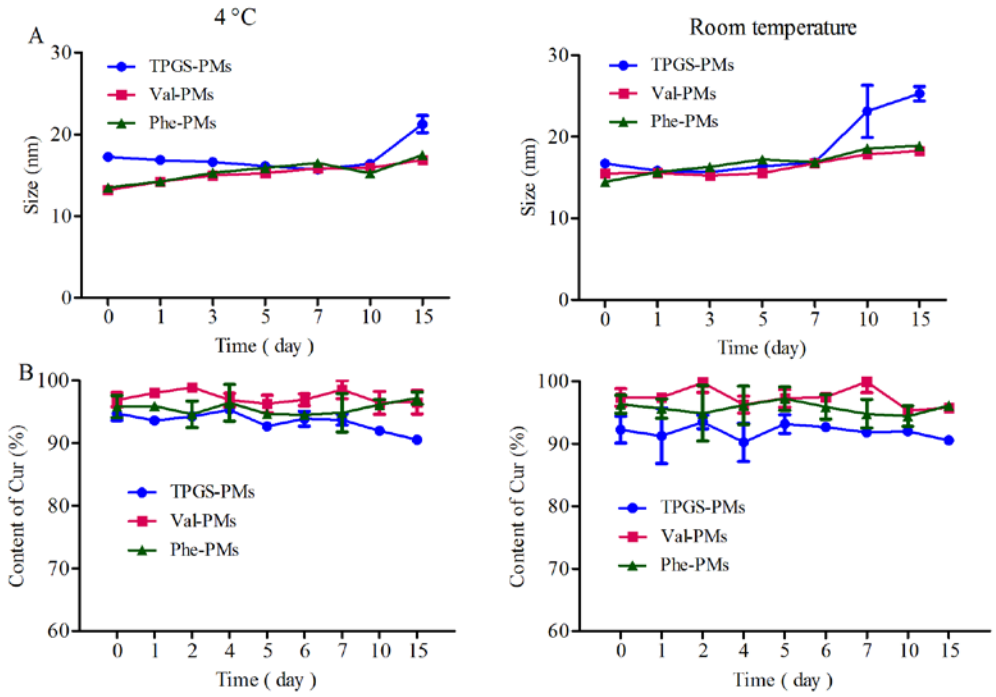

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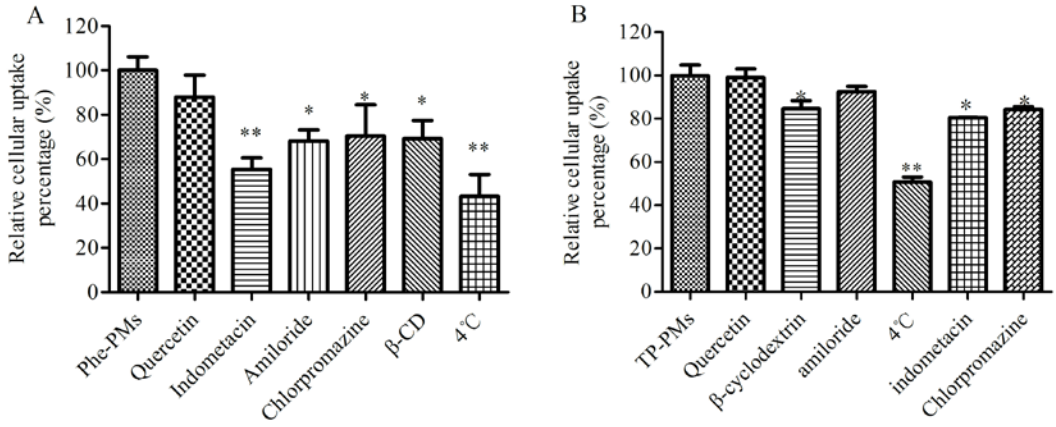

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Table S1 Pharmacokinetic parameters of Cur after oral administration of Cur-PMs in cylcoheximide (CHM) treated rats (n=3).

		TP-PMs	Val-PMs	Phe-PMs	TP-PMs+ CHM	Val-PMs+ CHM	Phe-PMs+ CHM
$AUC_{(0-2h)}$	μg/L*h	200.86±41.84	558.80±128.15	496.06±67.02	139.99±15.55	225.04±25.93	235.37±11.56
$AUC_{(0-\infty)}$	μg/L*h	212.33±41.37	1150.04±931.81	679.84±156.52	162.21±30.65	319.84±27.92	324.24±70.85
$t_{1/2}$	h	0.55±0.43	1.77±1.85	1.06±0.22	0.67±0.25	1.32±0.37	1.20±0.69
T_{max}	h	0.25±0.00	1.77±1.86	0.28±0.05	0.30±0.05	0.28±0.05	0.25±0.00
CL	L/h/kg	241.57±47.17	64.31±40.86	75.92±15.46	316.02±62.06	157.14±13.99	159.13±34.04
V	L/kg	187.85±146.63	97.28±26.27	113.96±19.87	290.95±73.11	294.90±72.02	254.04±92.18
C_{max}	μg/L	331.33±13.20	574.00±30.12	555.67±58.07	224.00±17.78	326.00±64.82	355.67±70.50

Table S2 Pharmacokinetic parameters of Cur in rats after oral administration of Cur-Sol, TP-PMs, Val-PMs and Phe-PMs (n=5).

		Cur-Sol	TP-PMs	Val-PMs	Phe-PMs
$AUC_{(0-12h)}$	μg/L*h	122.45±12.76	383.80±110.13	1232.94±383.87**	1296.14±271.61**
$AUC_{(0-\infty)}$	μg/L*h	204.28±112.64	426.14±92.82	1268.39±271.61**	1323.15±261.08**
$t_{1/2}$	h	0.42±0.026	1.03±0.34	2.01±0.81*	1.67±0.53*
T_{max}	h	0.33±0.00	0.25±0.00	0.26±0.03	0.25±0.00
CL	L/h/kg	290.86±107.72	121.63±23.95	43.27±12.52	39.63±8.36
V	L/kg	2367.31±1774.73	1008.71±571.86	137.78±88.20	99.53±45.90
C_{max}	μg/L	44.32±10.99	348±20.95	583.67±49.93**	597.5±42.29**