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A Layered Drug Agent Nanovehicle toward Targeted Cancer Imaging and Therapy

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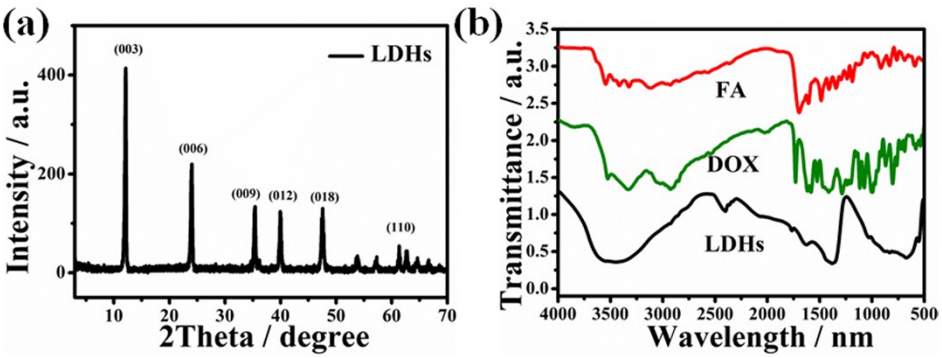

Figure S1. (a) XRD patterns of LDHs; (b) FTIR spectra of LDHs, FA and DOX respectively.

Table S1. The basal spacing and 2Theta of DOX(*x*%)-FA(80%)/LDHs, respectively

	DOX(0.5%)-FA(80%)/LDHs	DOX(1%)-FA(80%)/LDHs	DOX(1.5%)-FA(80%)/LDHs	DOX(2%)-FA(80%)/LDHs	DOX(3%)-FA(80%)/LDHs
Spacing	1.83	1.87	1.90	2.28	2.09
2Theta	4.82	4.70	4.64	3.86	4.24

Table S2. Chemical compositions of DOX(*x*%)-FA(80%)/LDHs composites

Sample	Chemical Composition	Mg^{2+}/Al^{3+}	Determined *x*%
DOX(0.5%)-FA(80%)/LDHs	$Mg_{0.614}Al_{0.386}(OH)_2DOX_{0.0040}FA_{0.110}$	1.59	2.10%
DOX(1%)-FA(80%)/LDHs	$Mg_{0.619}Al_{0.381}(OH)_2DOX_{0.0062}FA_{0.107}$	1.62	3.35%
DOX(1.5%)-FA(80%)/LDHs	$Mg_{0.615}Al_{0.385}(OH)_2DOX_{0.0087}FA_{0.010}$	1.599	4.52%
DOX(2%)-FA(80%)/LDHs	$Mg_{0.628}Al_{0.372}(OH)_2DOX_{0.0124}FA_{0.010}$	1.69	6.47%
DOX(3%)-FA(80%)/LDHs	$Mg_{0.624}Al_{0.376}(OH)_2DOX_{0.020}FA_{0.1200}$	1.66	9.41%

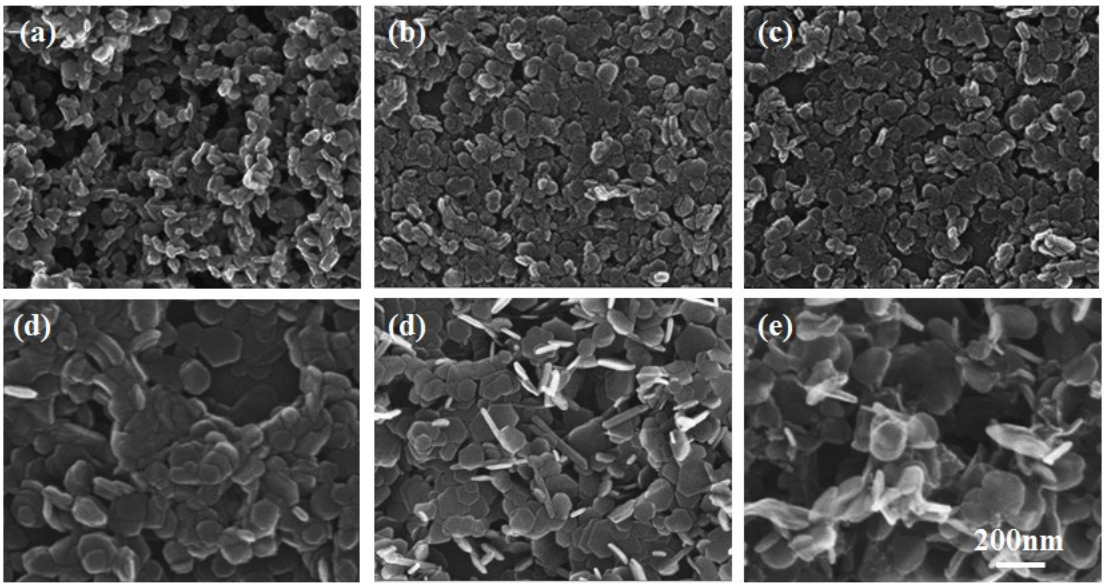

Figure S2. SEM images of (a) LDHs, (b–e) DOX(*x*%)-FA(80%)/LDHs samples (*x*% ranges from 0.5%–3%).

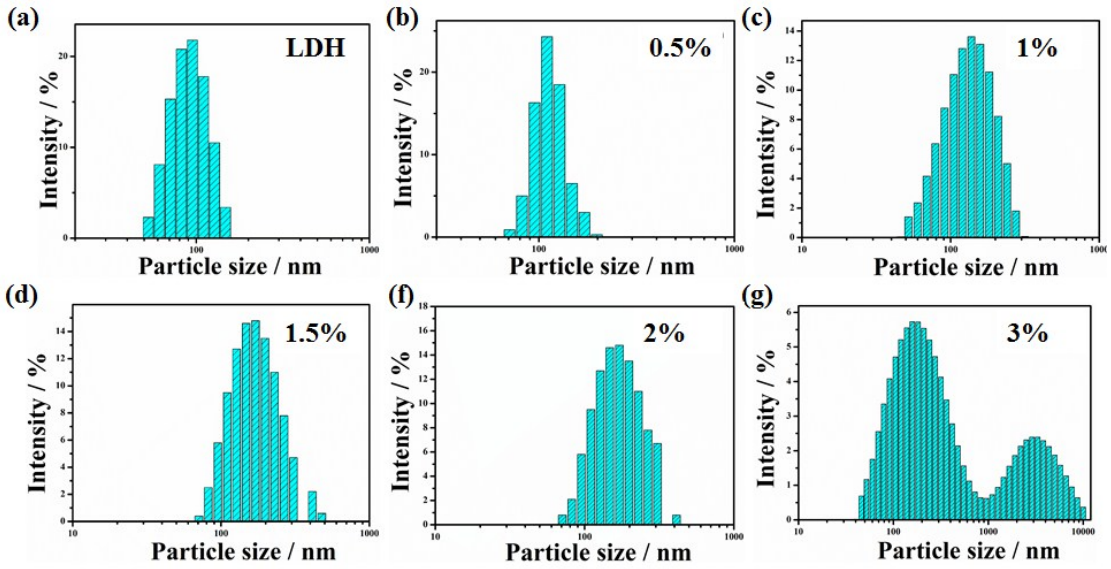

Figure S3. Particle size distribution of LDHs and DOX(*x*%)-FA(80%)/LDHs samples (*x*% ranges from 0.5%–3%) determined by dynamic lighting scatting analyzer (DLS).

Table S3. Particle size of LDHs and DOX(*x*%)-FA(80%)/LDHs samples (*x*% ranges from 0.5%–3%)

	LDHs	DOX(0.5%)-FA(80%)/LDHs	DOX(1%)-FA(80%)/LDHs	DOX(1.5%)-FA(80%)/LDHs	DOX(2%)-FA(80%)/LDHs	DOX(3%)-FA(80%)/LDHs
size	98 nm	114 nm	142 nm	164nm	178 nm	266 nm

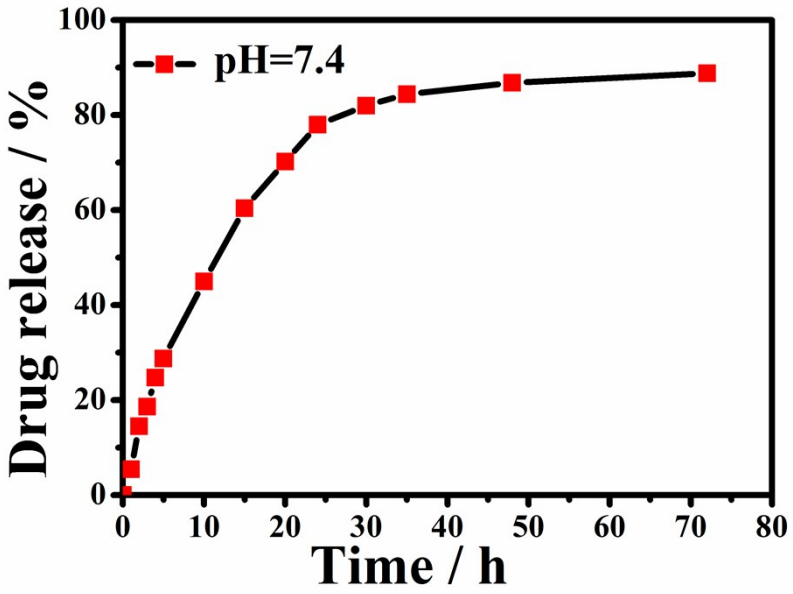

Figure S4. Cumulative DOX release from DOX(2%)-FA(80%)/LDHs under a simulant physiological condition (PBS buffer solution, pH=7.4).

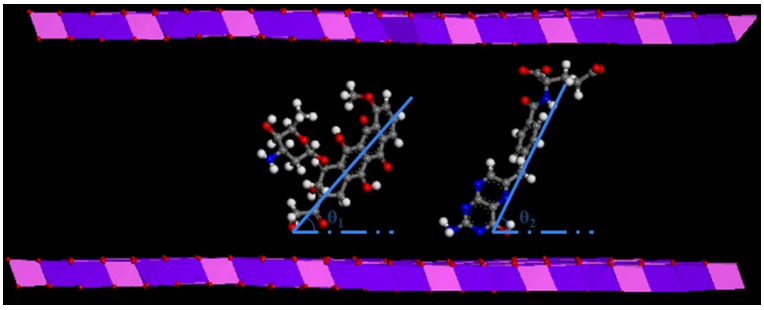

Figure S5. Distribution of tilt angle θ_1 of DOX and θ_2 of FA with respect to hydroxide sheets in the MD simulation models.

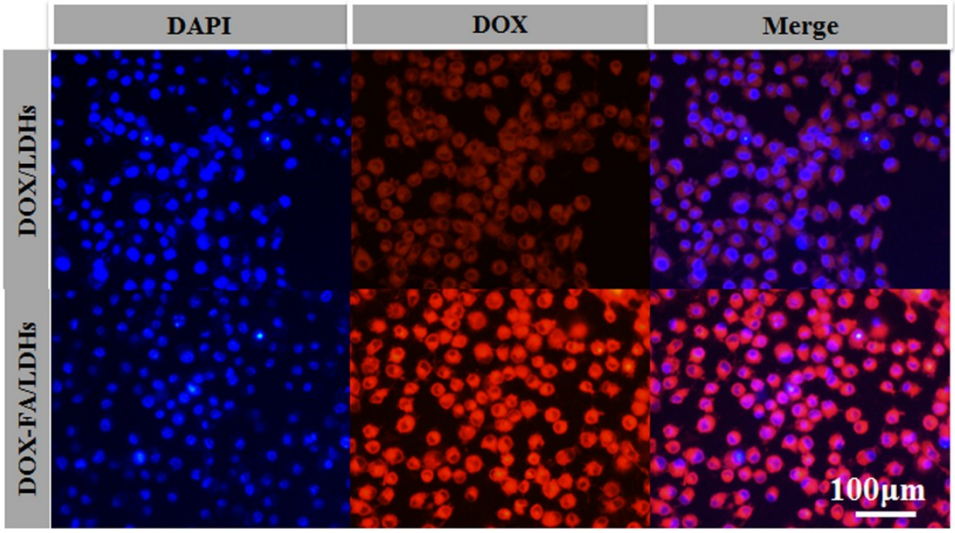

Figure S6. Fluorescence imaging of KB cells incubated with DOX/LDHs and DOX-FA/LDHs, respectively.

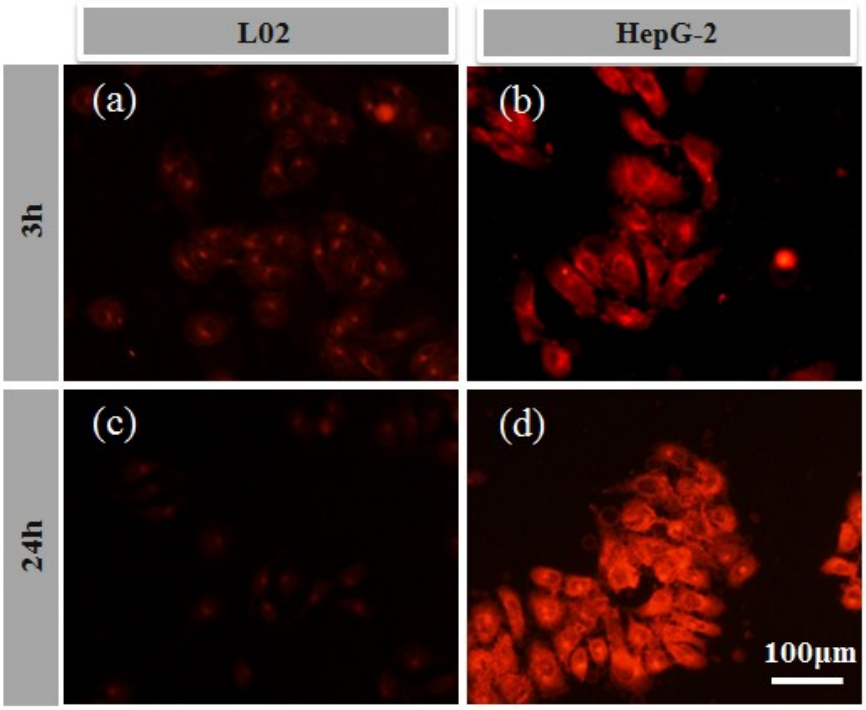

Figure S7. Fluorescence images of (a, c) L02 and (b, d) HepG2 cells incubated with DOX(2%)-FA(80%)/LDHs for 3 h and 24 h, respectively.