

## 大分子拥挤环境中脂肪酸影响磷脂囊泡相变的差示扫描量 热研究

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## Phase Transition of Phospholipid Vesicles Induced by Fatty Acids in Macromolecular Crowding: a Differential Scanning Calorimetry Study

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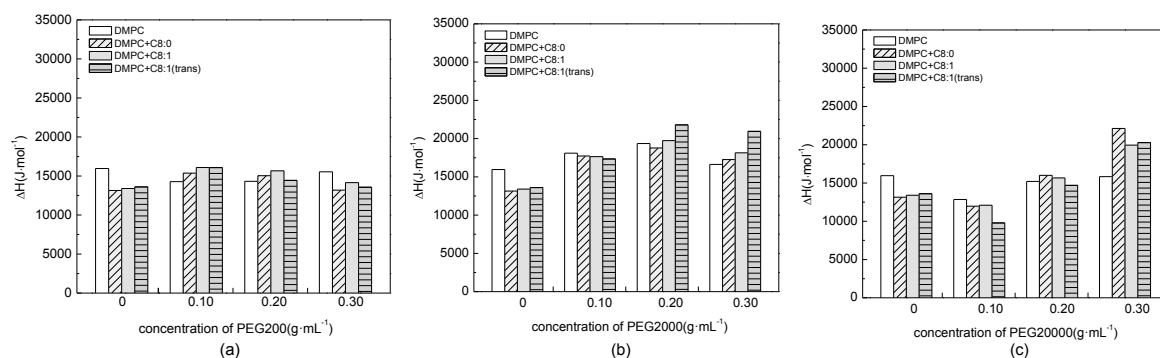
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**Table S1** Enthalpy of the transition  $\Delta H$  ( $\text{J mol}^{-1}$ ) of DMPC vesicles with or without FA in the presence of PEG

Sample	without PEG	$C_{\text{PEG200}}/(\text{g}\cdot\text{mL}^{-1})$			$C_{\text{PEG2000}}/(\text{g}\cdot\text{mL}^{-1})$			$C_{\text{PEG20000}}/(\text{g}\cdot\text{mL}^{-1})$		
		0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
DMPC	15960	14280	14322	15540	18102	19362	16632	12852	15204	15834
DMPC/C8:0	13146	15372	15036	13188	17724	18774	17262	11970	16002	22134
DMPC/C8:1( <i>cis</i> )	13398	16086	15666	14154	17640	19740	18144	12096	15666	19950
DMPC/C8:1( <i>trans</i> )	13608	16086	14448	13566	17346	21798	20958	9786	14700	20286
DMPC/C10:0	13692	14826	14658	9408	16632	20034	17808	10164	12432	14490
DMPC/C12:0	12054	16632	13734	17346	17724	22260	20034	10248	11676	15834
DMPC/C16:0	16338	22764	22050	22638	21168	26754	21798	18270	18690	27300
DMPC/C16:1	12138	17052	13818	9576	16506	18270	19152	11928	15498	22512
DMPC/C18:0	12054	19782	16464	12810	18522	23940	21588	8526	14028	18942
DMPC/C18:1( <i>cis</i> )	12390	15750	13146	10290	16170	16758	18270	10542	16506	19740
DMPC/18:2	12978	15876	14028	6972	17052	24024	19278	10668	12600	16674
DMPC/C18:3	13986	17346	17052	9240	15540	16212	17808	9870	16800	33474
DMPC/C18:1( <i>trans</i> )	13398	16758	16170	13314	16968	20580	22008	10080	16506	30450

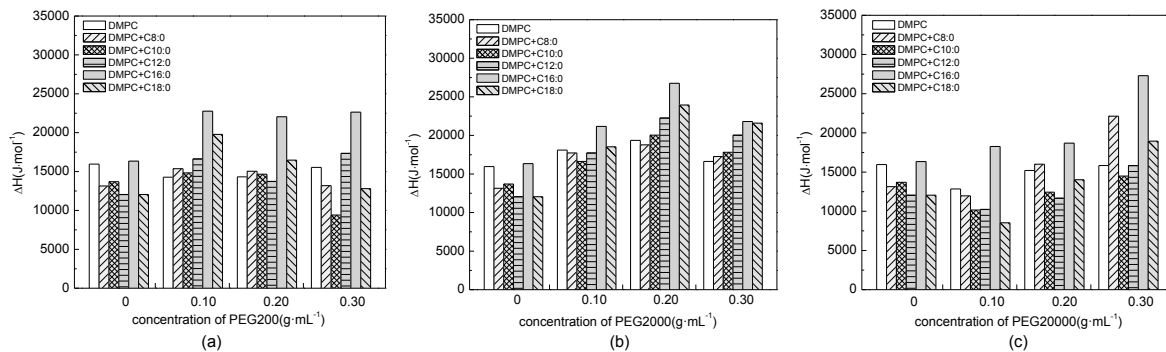
**Table 2** Enthalpy of the transition  $\Delta H_v$  ( $\text{J mol}^{-1}$ ) of DMPC vesicles with or without FA in the presence of PEG

Sample	without PEG	$C_{\text{PEG200}}/(\text{g}\cdot\text{mL}^{-1})$			$C_{\text{PEG2000}}/(\text{g}\cdot\text{mL}^{-1})$			$C_{\text{PEG20000}}/(\text{g}\cdot\text{mL}^{-1})$		
		0.10	0.20	0.30	0.10	0.20	0.30	0.10	0.20	0.30
DMPC	3262703	3163020	2361984	2315149	2268181	1959628	1700289	2005683	1934101	1641718
DMPC/C8:0	2473814	2762041	2464250	2506775	2380865	2042987	1732414	2017184	1972567	1389039
DMPC/C8:1( <i>cis</i> )	2530748	2615744	2311048	2246523	2435908	1971434	1636770	2017250	2278306	1540560
DMPC/C8:1( <i>trans</i> )	2571232	2881968	2342165	2423566	2439021	1727274	1536221	2247746	2416680	1482600
DMPC/C10:0	2645979	2633394	2556355	627701.8	2460205	1935685	1613227	1743634	2191637	2296665
DMPC/C12:0	2862584	2979124	2985222	3060702	2745093	1565768	1026342	1703935	2193103	1940932
DMPC/C16:0	831277.4	728903.3	670981.5	753392.6	1041677	399704.8	541898.3	1240898	942349.8	608790
DMPC/C16:1	1446728	799227.2	880344.8	1146247	1803177	822880.8	680279	1826773	1025813	581710.1
DMPC/C18:0	1202989	867242.9	898769.8	1007122	1013153	605203.2	459824.4	1705115	1063042	1401708
DMPC/C18:1( <i>cis</i> )	921816	578182.5	568958.9	634481.4	1156964	622559.7	538234.2	1414209	722797.7	572854.8
DMPC/18:2	1030453	598048.9	489436.9	688624.4	1119975	421381	488311.7	1495334	612108	559079.2
DMPC/C18:3	1834963	662617.2	548051.3	1067220	1411809	695008.4	557568.5	1305702	746592	465623.3
DMPC/C18:1( <i>trans</i> )	2171012	1859133	1014506	1179354	2593219	1556671	662660.9	2711822	1300343	683907



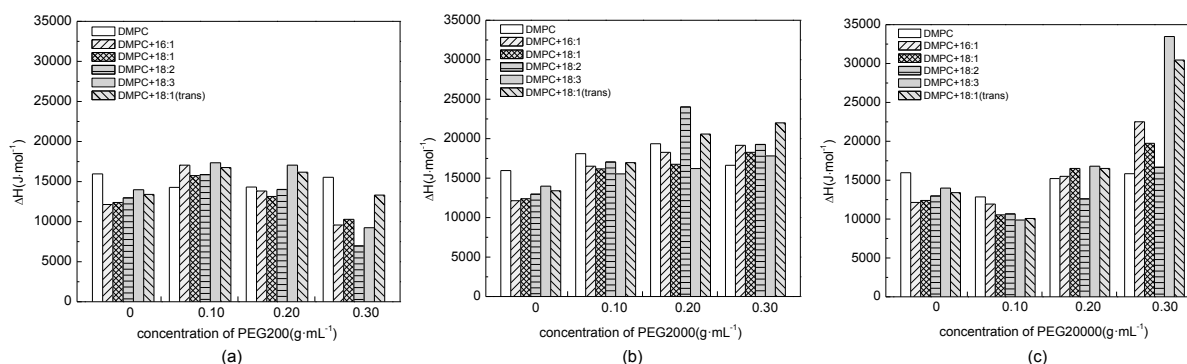
**Fig.S1** Enthalpy of the transition  $\Delta H$  of DMPC vesicles with or without short-chain FA in the presence of PEG with different molecular weight and concentration

(a) PEG200, (b) PEG2000, (c) PEG20000



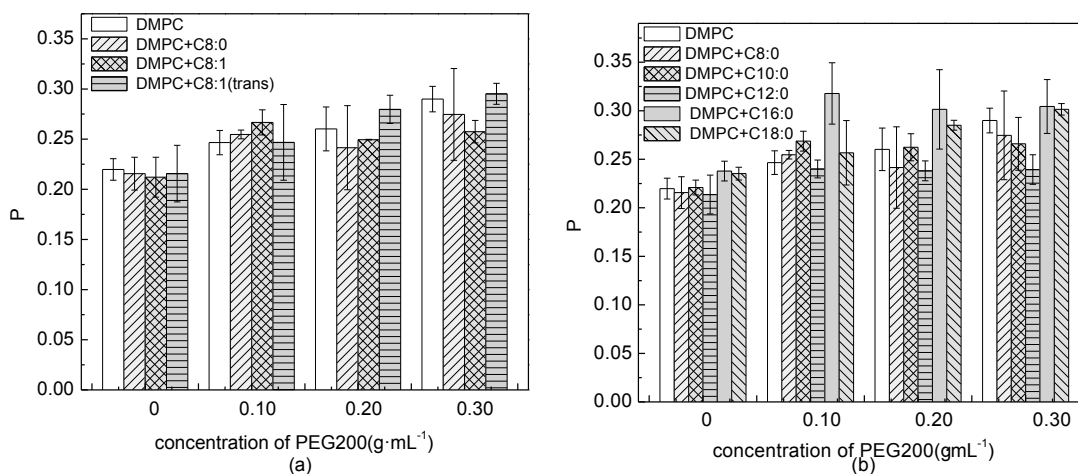
**Fig.S2 Enthalpy of the transition  $\Delta H$  of DMPC vesicles with or without long-chain saturated FA in the presence of PEG with different molecular weight and concentration**

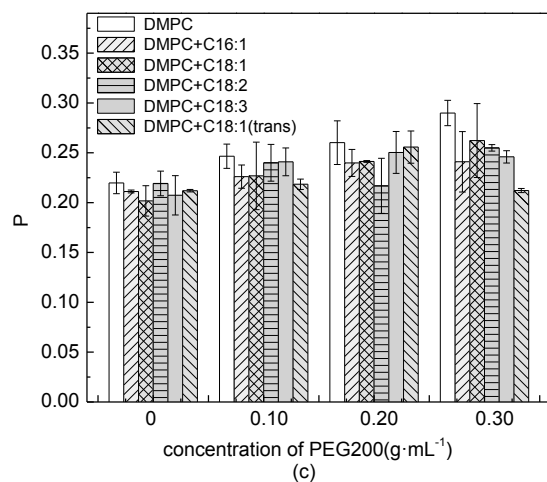
(a) PEG200, (b) PEG2000, (c) PEG20000



**Fig.S3 Enthalpy of the transition  $\Delta H$  of DMPC vesicles with or without long-chain unsaturated FA in the presence of PEG with different molecular weight and concentration**

(a) PEG200, (b) PEG2000, (c) PEG20000





**Fig.S4 Polarization of DMPC/FA in PEG200 (a) short-chain fatty acid mixed with DMPC; (b) long-chain saturated fatty acid mixed with DMPC; (c) long-chain unsaturated fatty acid mixed with DMPC**