

New Nanosized Systems Doxorubicin – Amphiphilic Copolymers of *N*-Vinylpyrrolidone and (Di)methacrylates with Antitumor Activity

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Description of conditions for DOX encapsulation in the VP-TEGDM copolymer; Table S1: Concentrations of reagents and conditions for DOX encapsulation in the VP-TEGDM copolymer (CPL1) according to the manner 1, Table S2: Concentrations of reagents and conditions of DOX encapsulation into the VP-TEGDM copolymer according to the manner 2. Description of structure and properties of copolymers; Figure S1: Topological structures of VP-TEGDM (a) and VP-MAA-TEGDM (b) copolymers, Figure S2: The intensity distribution of light scattering over the size of scattering centers by a solution of the VP-TEGDM copolymer in IPA (7 mg mL⁻¹) on temperature, Figure S3: The intensity distribution of light scattering over the size of scattering centers by an aqueous buffer solution of the VP-TEGDM copolymer (1.2 mg mL⁻¹) on temperature. Description of an aqueous buffer solution of the DOX-copolymer, Figure S4: The intensity distribution of light scattering over the size of scattering centers by an aqueous buffer solution of DOX-the copolymer obtained in run 1 (a) (and run 2 (b) on temperature. The concentrations are 1.2 and 0.42 mg mL⁻¹, resp., Figure S5: Absorption spectra of DOX (a) and DOX-terpolymer structure (b) in PBS (initial and over two weeks). Cuvette is 1 cm.

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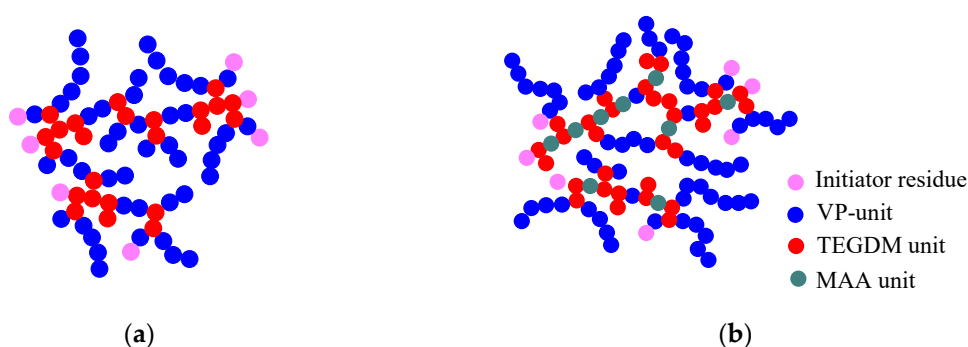
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Table S1. Concentrations of reagents and conditions for DOX encapsulation in the VP-TEGDM copolymer (CPL1) according to the manner 1.

# runs	Volume ratio of the CPL1 solutions in IPA and DOX in water, ml	[CPL1] ₀ , mg ml ⁻¹	[DOX] ₀ , mg ml ⁻¹	DOX content per CPL1, %	pH 0.01 M neutral water buffer solution
1	4:0.1	7.0	1.0	0.4	7.0
2	4:0.3	7.0	1.0	1.1	7.0
3	4:0.1	0.0	1.0	–	7.0
4	4:0.0	7.0	0.0	–	7.0
5	4:0.3	7.0	0.0	0.0	7.0
6	4:0.1	7.0	1.0	0.4	6.8
7	4:0.3	1.5	1.0	5.0	6.8
8	4:0.3	0.5	1.0	15.0	6.8

Table S2. Concentrations of reagents and conditions for DOX encapsulation in the VP-TEGDM copolymer (CPL1) according to the manner 2.

# runs	Volume ratio of the CPL1 solutions in IPA and DOX in water, ml	[CPL1] ₀ , mg ml ⁻¹	[DOX] ₀ , mg ml ⁻¹	DOX content per CPL1, %	pH 0.01 M neutral water buffer solution
9	4:0.1	0.0625	1.0	40	7.0
10	4:0.1	0.1250	1.0	20	7.0
11	4:0.1	0.2500	1.0	10	7.0
12	4:0.1	0.5000	1.0	5	7.0
13	4:0.1	1.000	1.0	2.5	7.0

**Figure S1.** Topological structures of VP-TEGDM (a) and VP-MAA-TEGDM (b) copolymers.

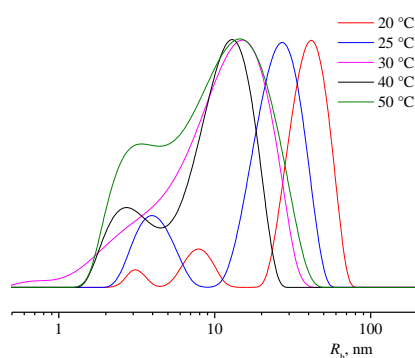


Figure S2. The intensity distribution of light scattering over the size of scattering centers by a solution of the VP-TEGDM copolymer in IPA (7 mg mL^{-1}) at different temperatures.

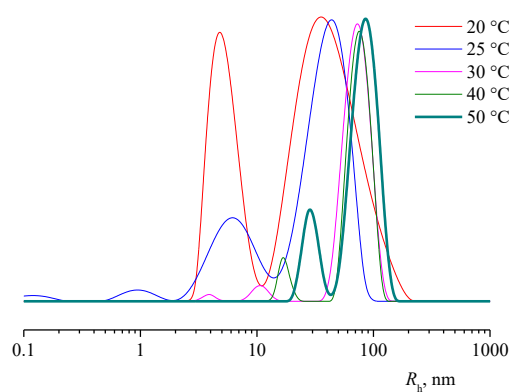


Figure S3. The intensity distribution of light scattering over the size of scattering centers by PBS (pH 7.0) of the VP-TEGDM copolymer (1.2 mg mL^{-1}) at different temperatures.

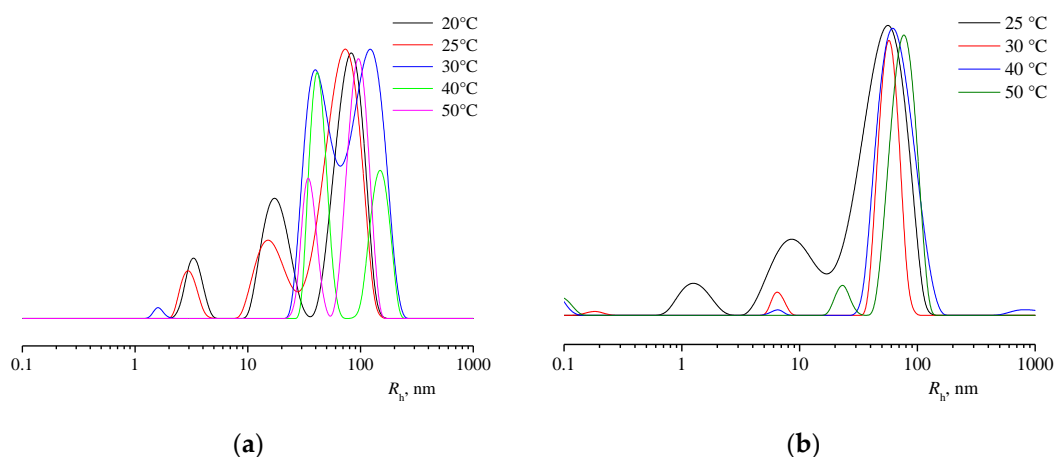


Figure S4. The intensity distribution of light scattering over the size of scattering centers by PBS (pH 7.0) of DOX-copolymer compositions obtained in run 1 (a) and run 2 (b) at different temperatures. The concentrations are 1.2 and 0.42 mg mL^{-1} , resp.

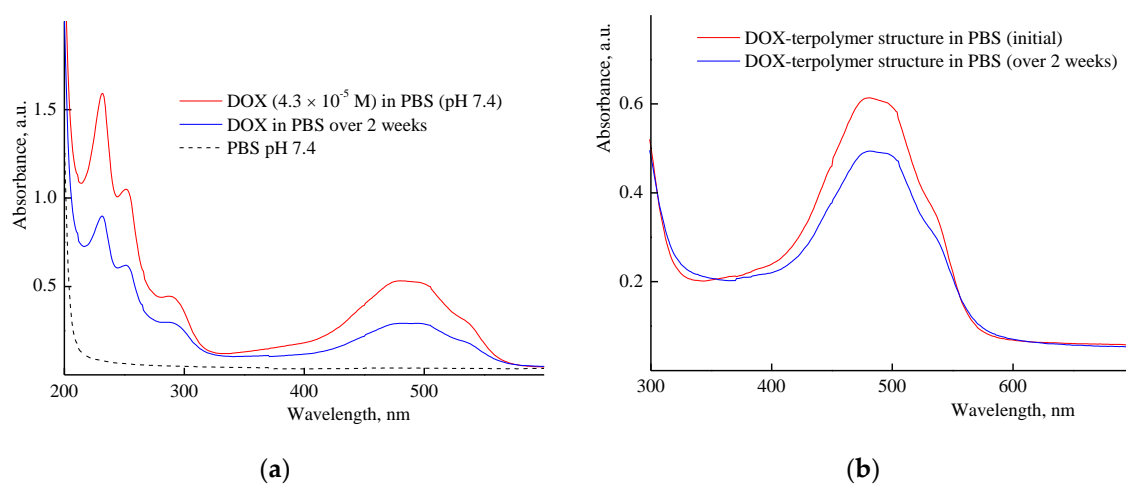


Figure S5. Absorption spectra of DOX (a) and DOX-terpolymer structure (b) in PBS (initial and over two weeks). Cuvette is 1 cm.