Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Anisotropic Swelling Wound Dressings with Vertically Aligned Water Absorptive Particles

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Table S1. The effect of alignment on the lateral expansion on the three-layer wound dressing films after swelling.

Particle content (wt.%)	Size of the films with nanorods (cm)		Size of the films with irregular-shaped particles (cm)	
	Random	Aligned	Random	Aligned
0	5.93	5.91	5.92	5.93
15	6.65	6.06	6.56	6.12
25	6.87	6.23	6.78	6.32
35	7.06	6.54	7.04	6.71

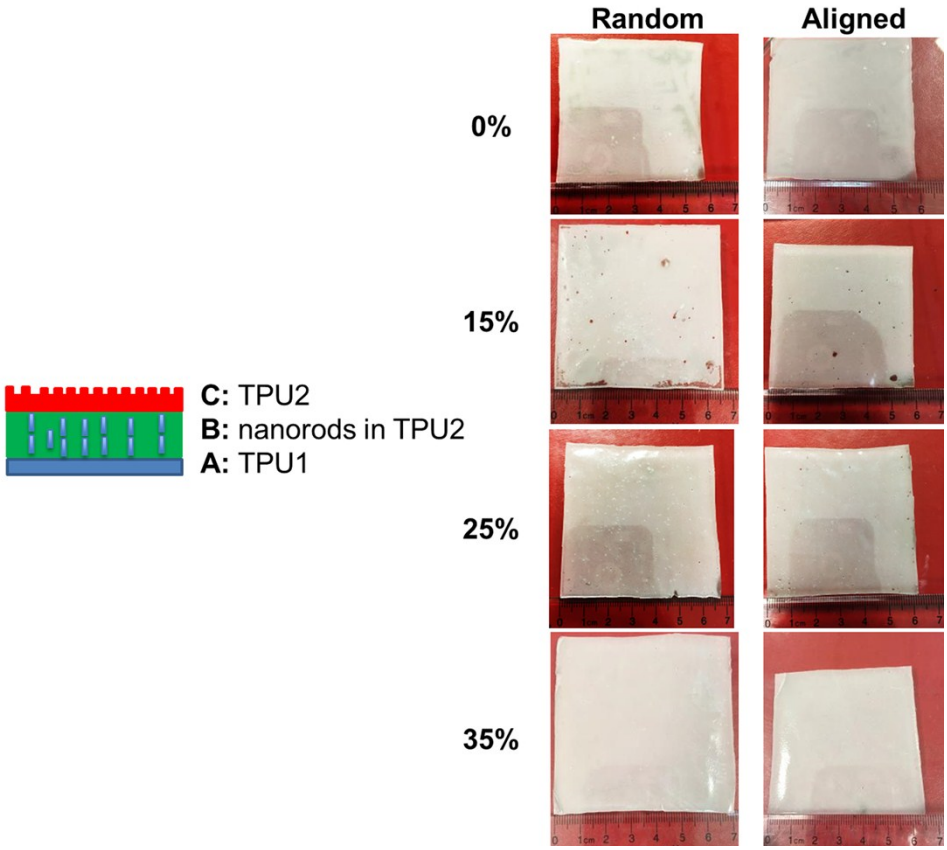

Figure S1. The effect of alignment of nanorods on the lateral expansion on the three-layer wound dressing films with nanorods after swelling.

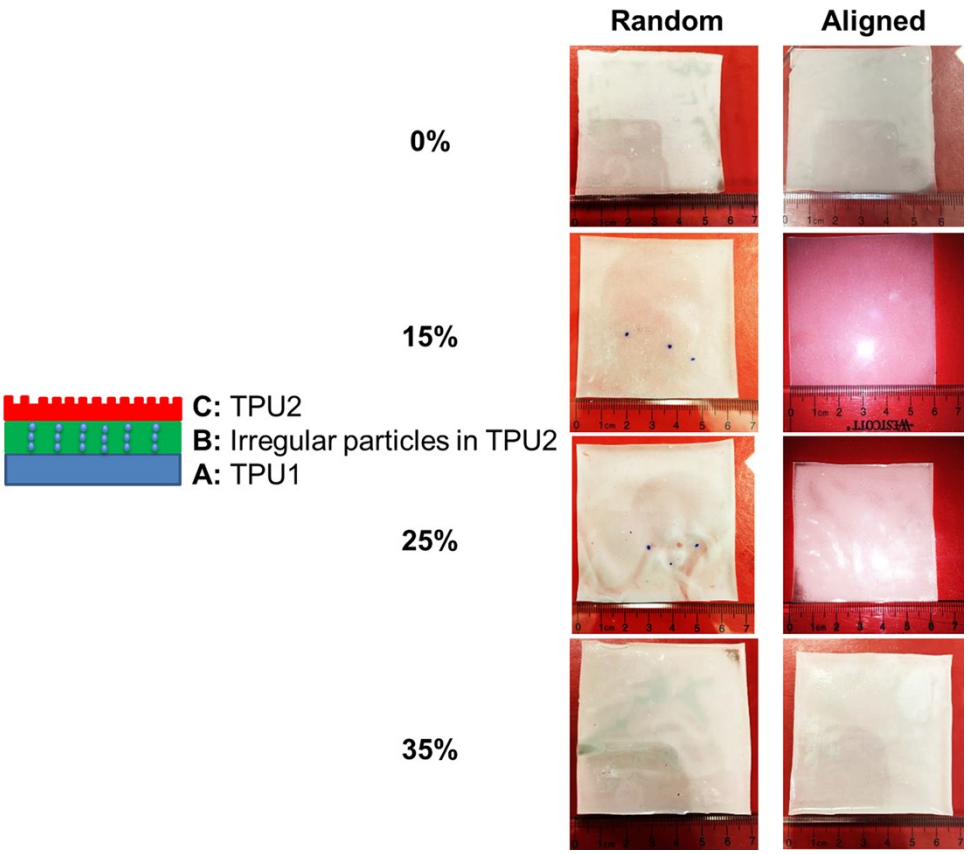

Figure S2. The effect of alignment on the lateral expansion on the three-layer wound dressing films with irregular-shaped particles after swelling.

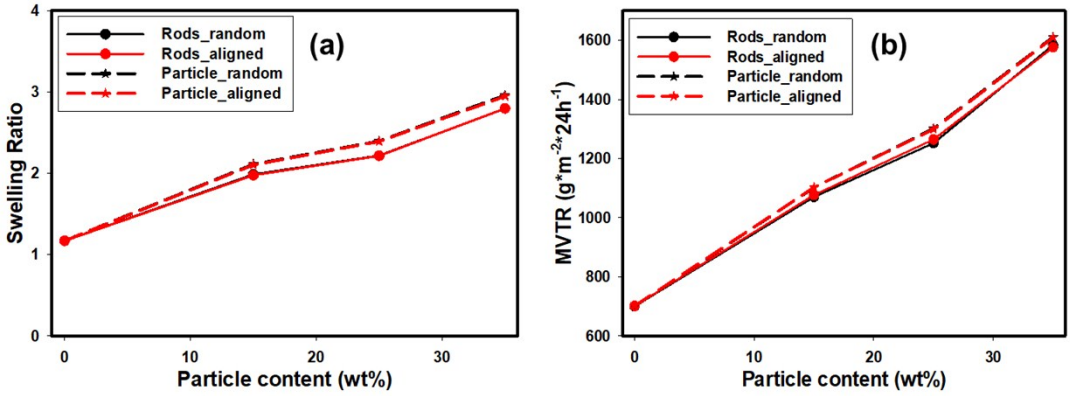

Figure S3. The effect of alignment on (a) swelling ratio and (b) MVTR of three-layer wound dressing films after swelling.

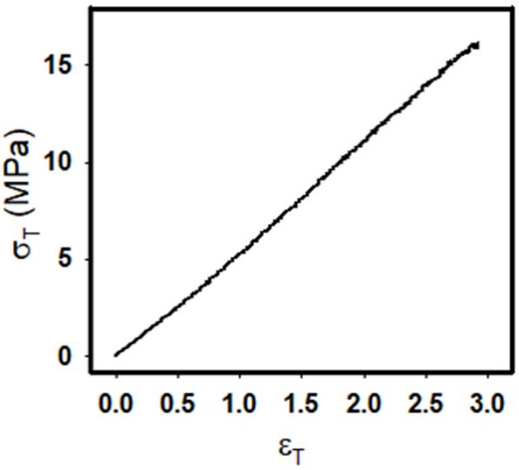

Figure S4. True stress verse true strain curve of the swollen multi-layer wound dressing films.

Video S1: Electric field induced alignment of nanorods in 19 wt.% TPU2 in dioxane solution under 600 V/mm (scale bar: 50 μm).

Video S2: Electric field induced alignment of irregular-shaped particles in 19 wt.% TPU2 in dioxane solution under 600 V/mm (scale bar: 50 μm).