

POLYMERIC HYBRID FILM COMPOSITE WITH TAILORED PROPERTIES

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AIM: preparation of polymeric hybrid composite coatings with structured roughness for water repellent applications.

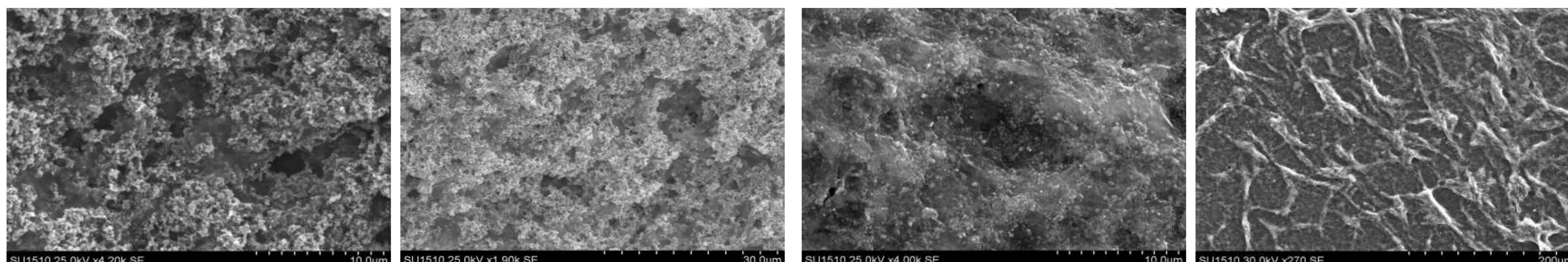
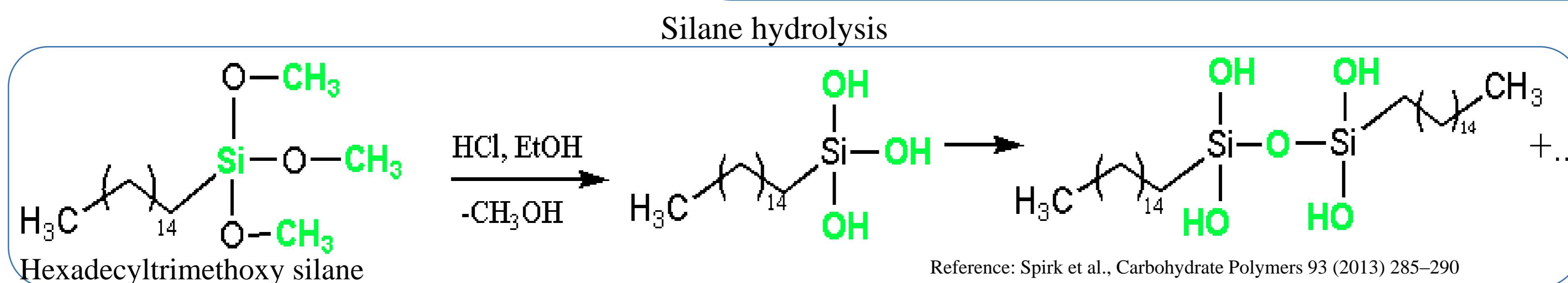
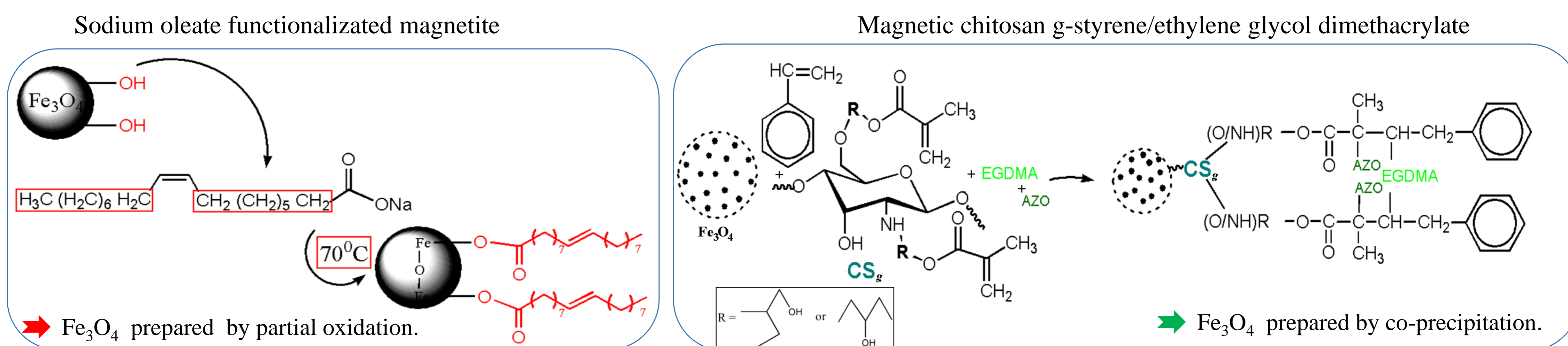
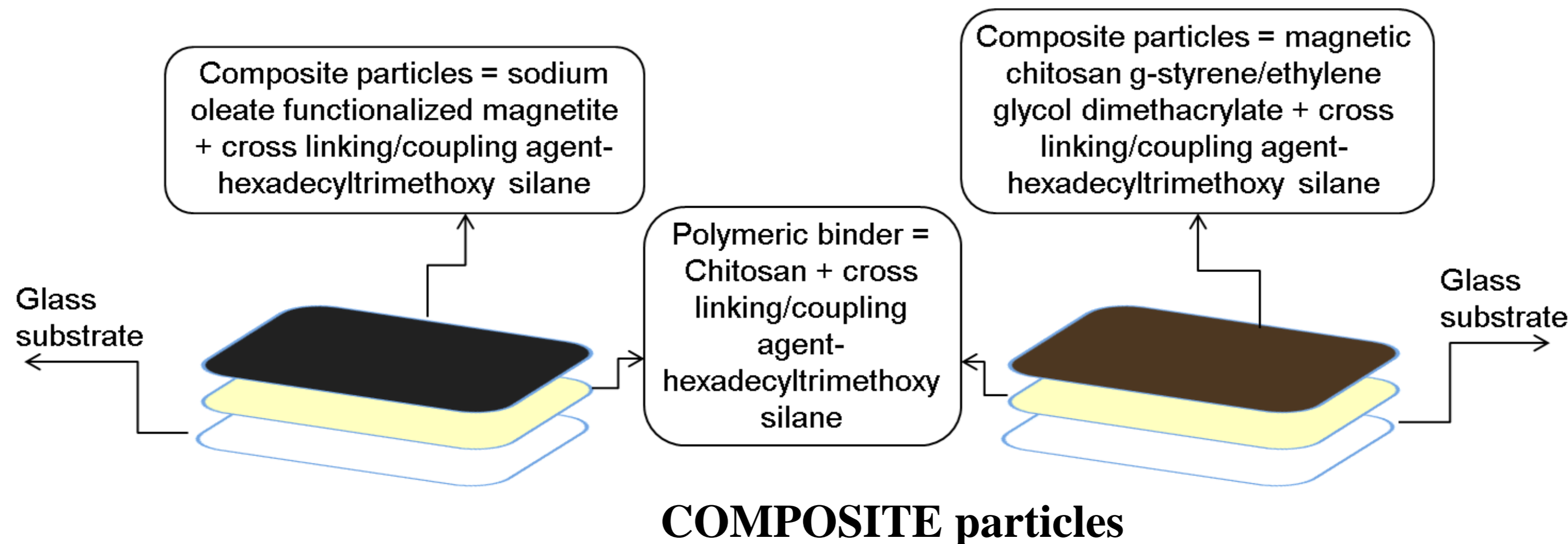
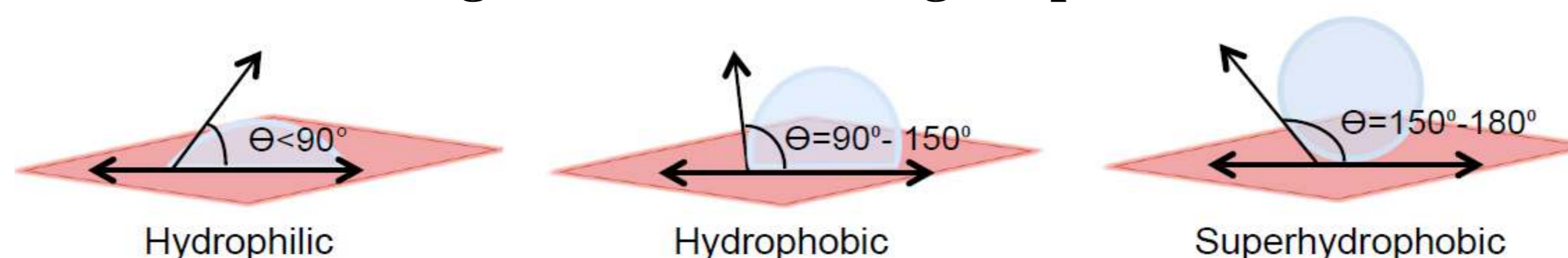


Figure 1. SEM images of polymeric hybrid composite film based on sodium oleate functionalized magnetite

Figure 2. SEM images of polymeric hybrid composite film based on magnetic chitosan g-styrene/ethylene glycol dimethacrylate

Contact Angle and Non-Wetting Properties



	Polymeric hybrid composite film based on sodium oleate functionalized magnetite	Polymeric hybrid composite film based on magnetic chitosan g-styrene/ethylene glycol dimethacrylate
Glass slide		
Contact angle	159°	140.1°
Hysteresis	0.4°	1.5°
V droplet (μL)	20	3

CONCLUSIONS

Hybrid coatings containing composite particles and polymeric binder, cross-linked with a coupling agent were prepared. Two types of composite particles were synthesized and successfully evaluated for the hybrid film preparation. The ability of the composite particles to generate patterned films with hierarchical roughness and controlled wettability was demonstrated. The water contact angle measurements evidenced hydrophobic or superhydrophobic surfaces.