

Supplementary information

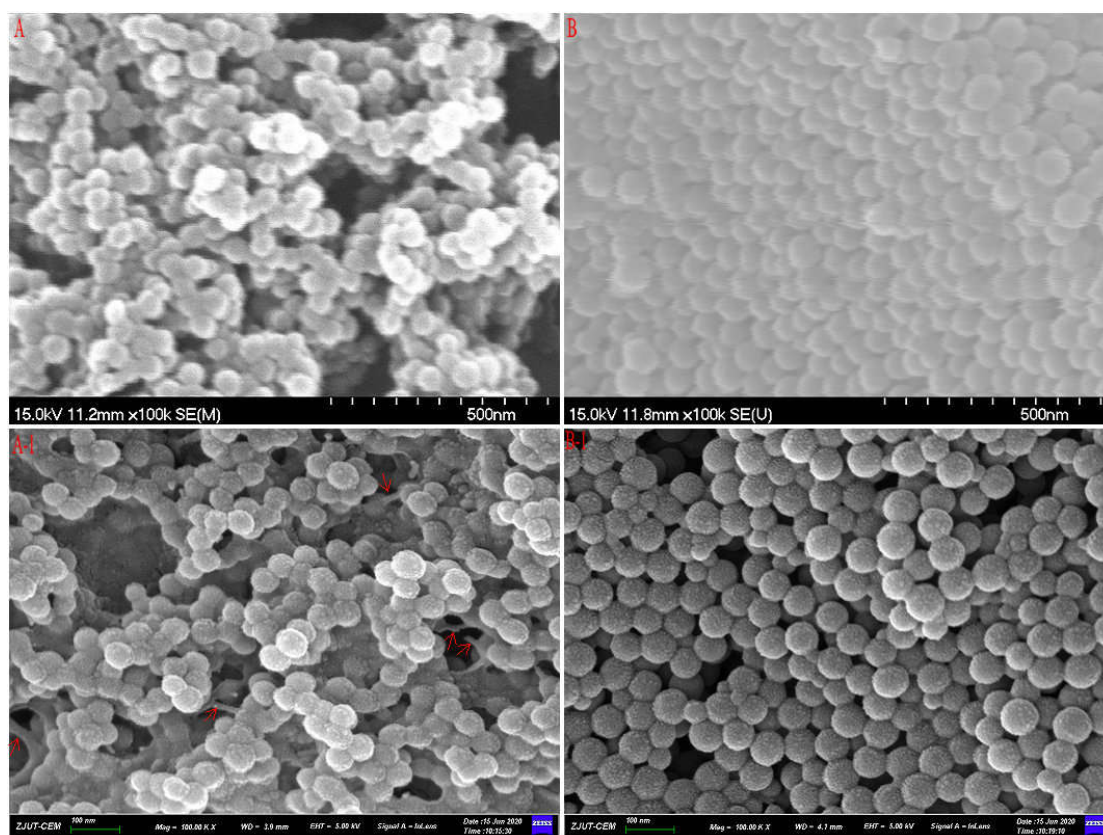


Figure S1. The SEM images of 50 nm PS-NPs (left) and 70 nm PS-NPs (right) (above: raw materials; below: PS-NPs after 72 h exposure in BG-11, red arrows represent the deformation of PS-NPs).

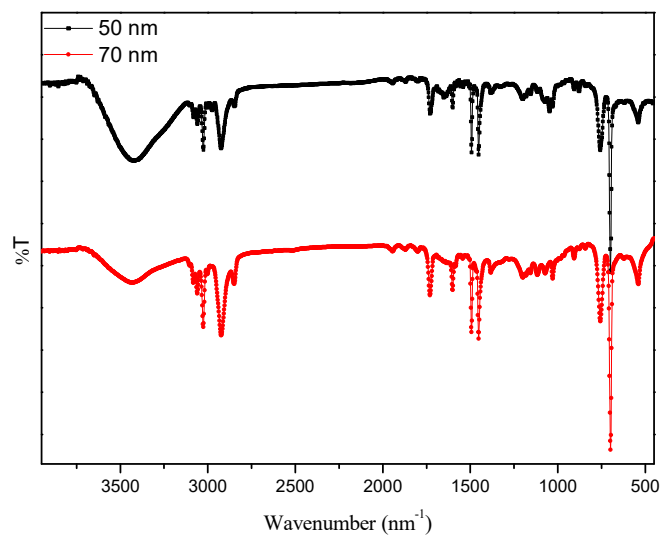


Figure S2. FTIR characterization of primary 50 nm and 70 nm PS-NPs

Table S1. The EC_{50} values for algae growth and chlorophyll a after exposing to 50 and 70 nm PS-NPs (0-50 mg/L) for 72 h.

PS-NPs size	EC ₅₀ (72h)	Growth		EC ₅₀ (72h)	Chl-a	
		95% confidence interval			95% confidence interval	
		Lower limit	Upper limit		Lower limit	Upper limit
50 nm	19.89	15.58	27.44	17.52	13.31	24.72
70 nm	>50	-	-	>50	-	-

EC_{50} was calculated according to their inhibition rates in respect to the control.

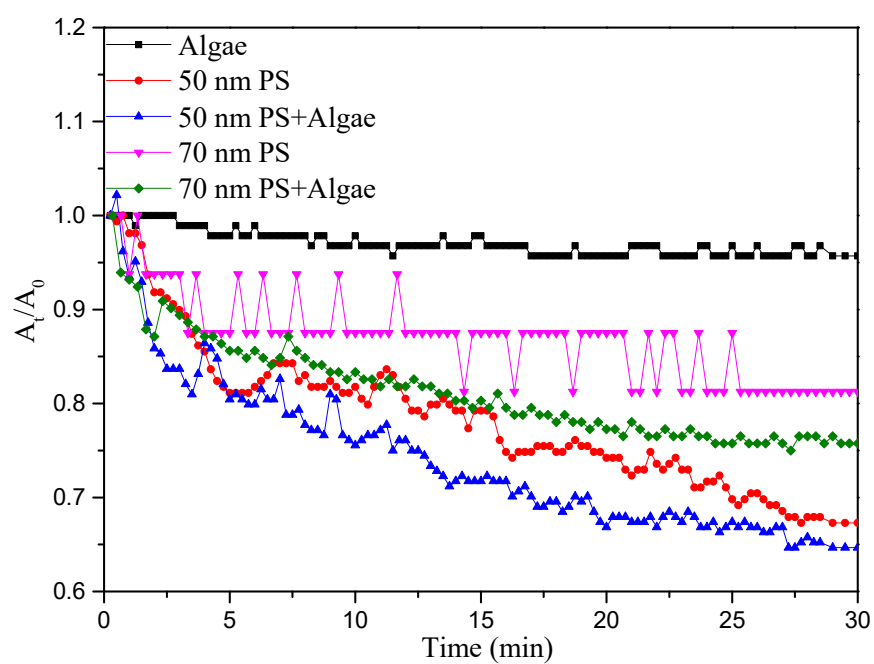


Figure S3. Effect of PS-NPs on sedimentation for algal cell (20 mg/L PS-NPs)