

Fig. S1 TEM images of (a) raw TiO_2 and TiO_2 after modified with (b) T161, (c) T151, (d) T154, (e) S17000 and (f) S24000.



Fig. S2 The optical path under laser irradiation of T161, T151, T154, S17000 and S24000 in Isopar L.

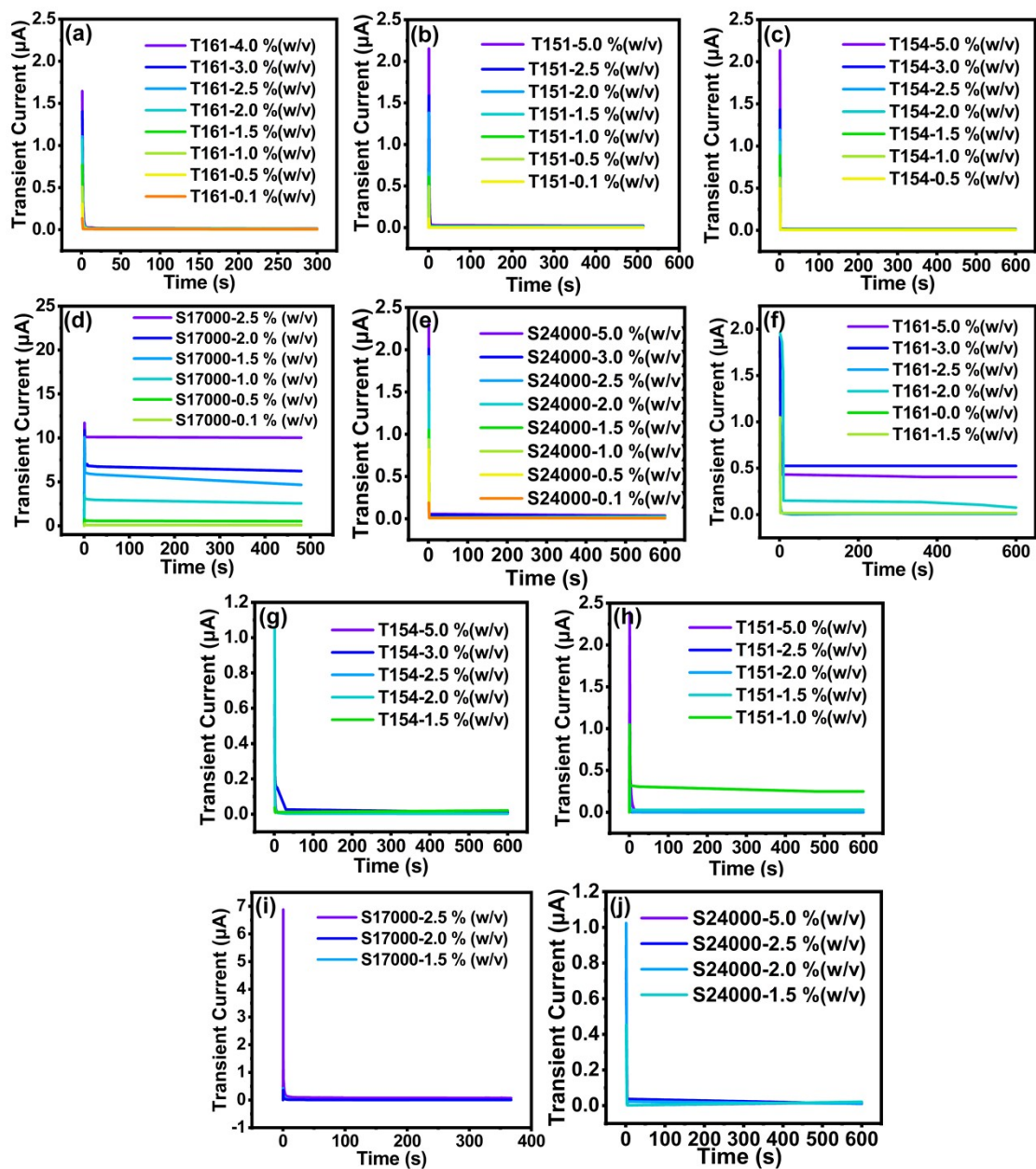


Fig. S3 Transient current diagram of (a)~(e) non-particle dispersions and (f) ~ (j) TiO_2 particle dispersions with different concentrations of surfactants.

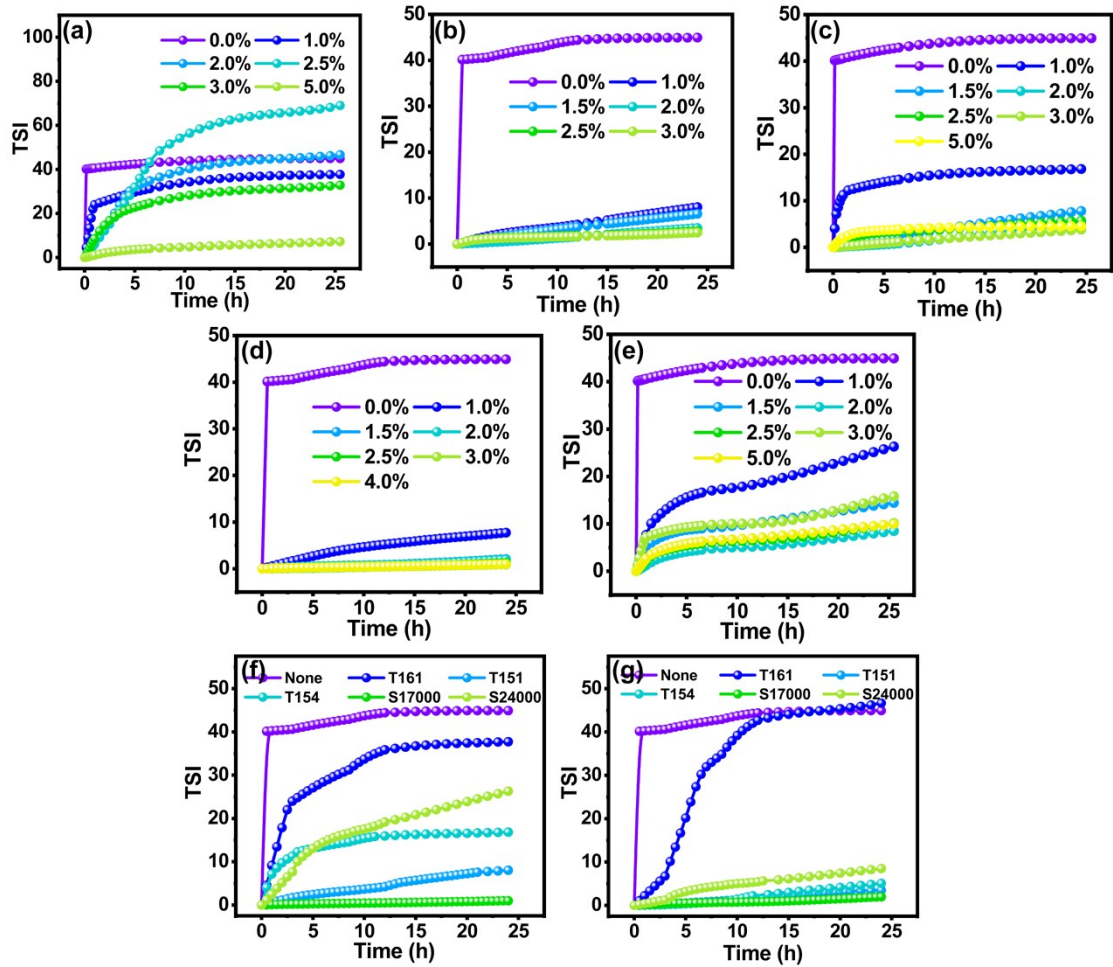


Fig. S4 The change diagram of TSI of TiO₂ modified with (a) T161, (b) T151, (c) T154, (d) S17000 and (e) S24000. The Change diagram of TSI (f) with the same concentration of anchoring groups and (g) with the same concentration of solvated chain.

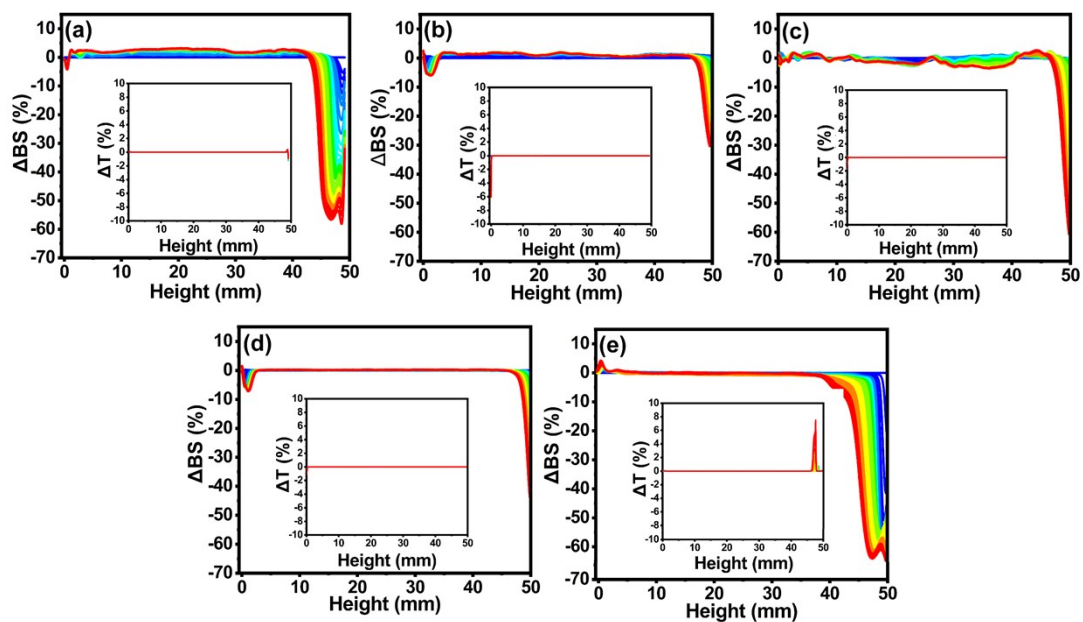


Fig. S5 The change of the backscattering and transmitting light of TiO_2 modified with (a) T161, (b) T151, (c) T154, (d) S17000 and (e) S24000.

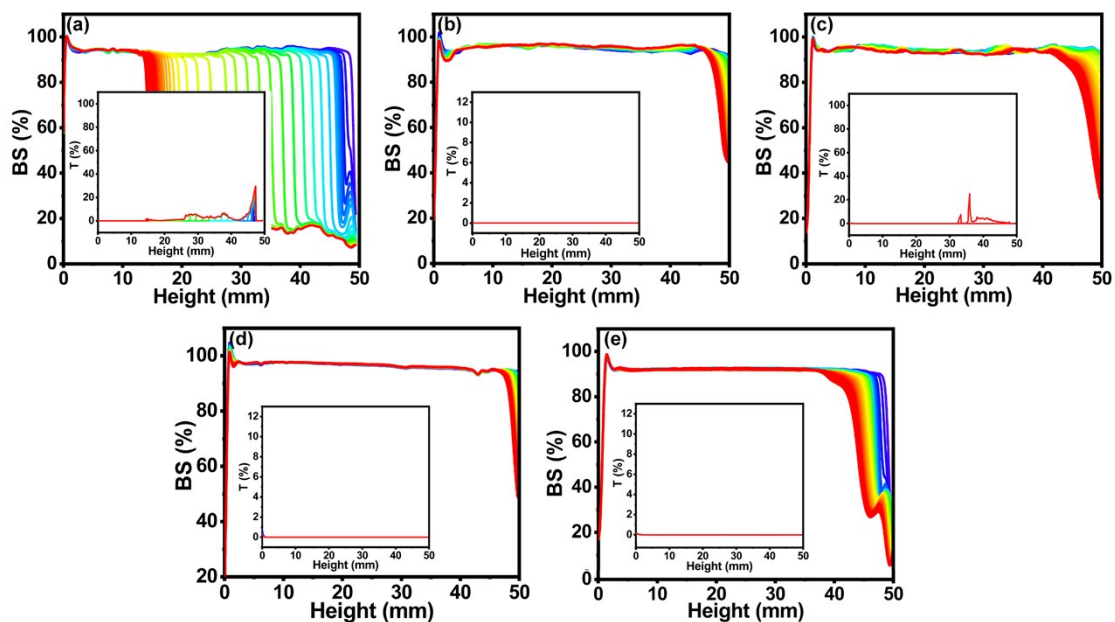


Fig. S6 The values of the backscattering and transmitting light of TiO_2 modified with (a) T161, (b) T151, (c) T154, (d) S17000 and (e) S24000 with the same concentration of solvation chain for every surfactant.

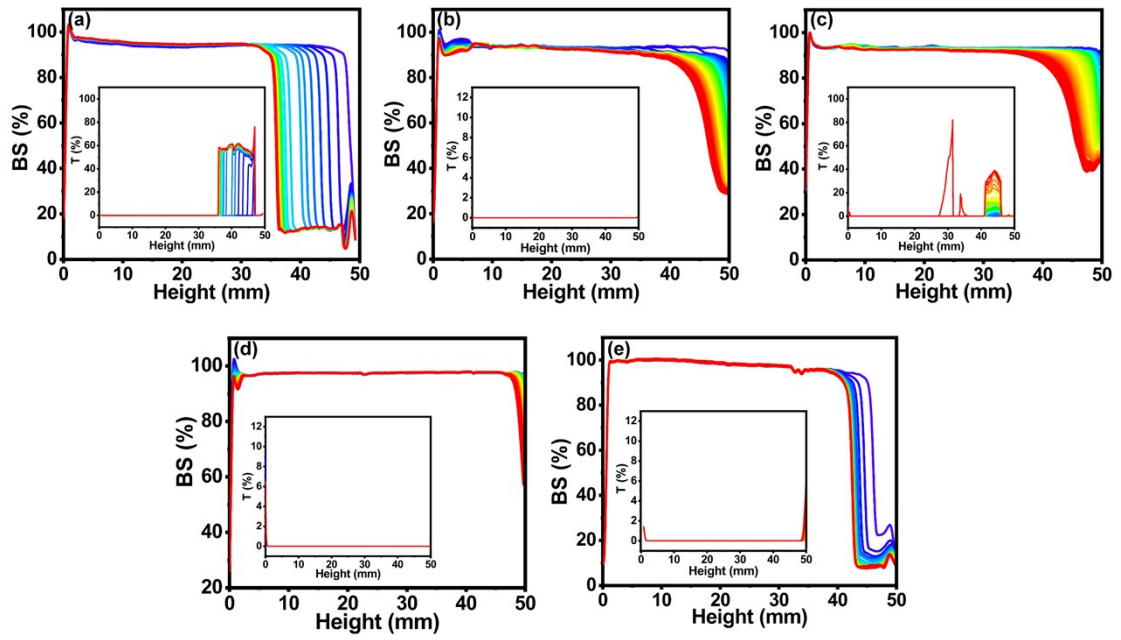


Fig. S7 The values of the backscattering and transmitting light of TiO_2 modified with (a) T161, (b) T151, (c) T154, (d) S17000 and (e) S24000 with the same concentration of anchoring groups for every surfactant.