

Table S1. Parameters calculated for adsorption of Cd(II) over CNTs–Ag₂S from the intra-particle diffusion plot provided in Fig. S2.

Intra-particle diffusion model					
K_{id-1}	c	R^2	k_{id-2}	c	R^2
[mg/(g.min ^{0.5})]			[mg/(g.min ^{0.5})]		
28.40	-41.69	0.9913	1.3805	111.3	0.7082

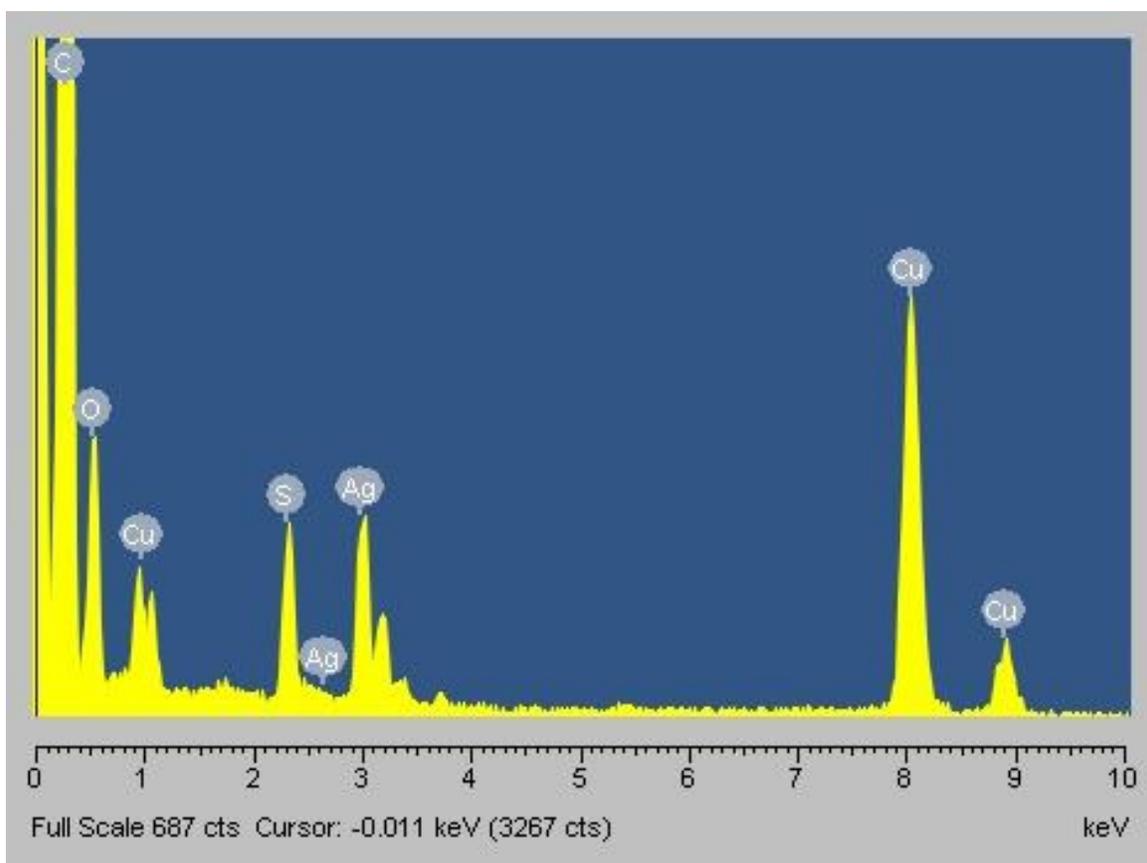


Figure S1 EDS spectrum of CNTs–Ag₂S.

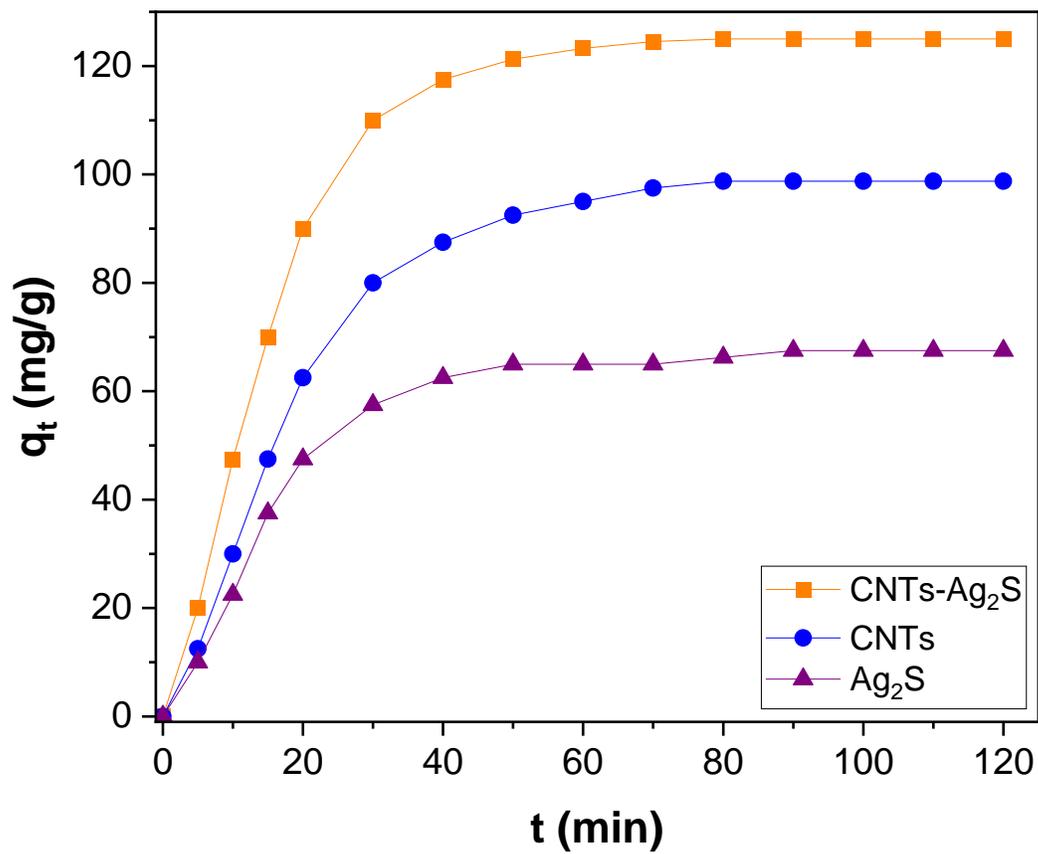


Figure S2 Plot perceived q_t as a function of time for adsorption of Cd(II) over CNTs- Ag_2S .

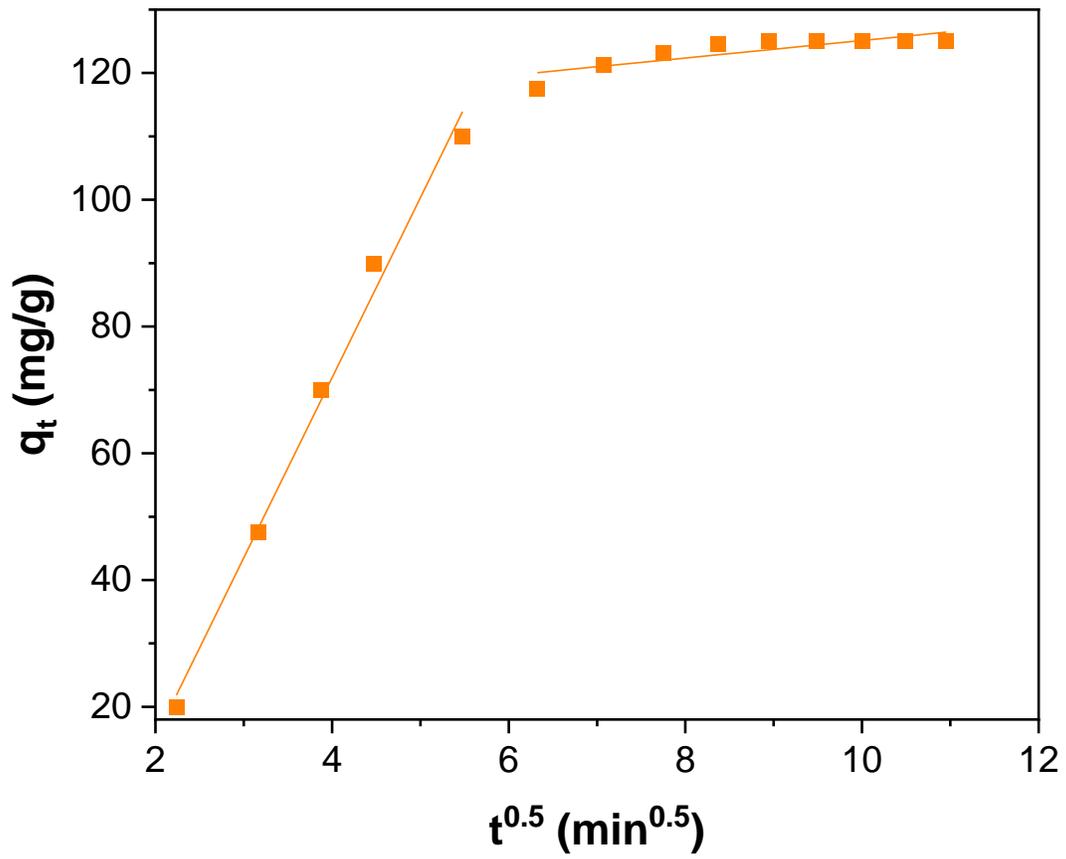


Figure S3 Intraparticle diffusion model for adsorption of Cd(II) over CNTs–Ag₂S.

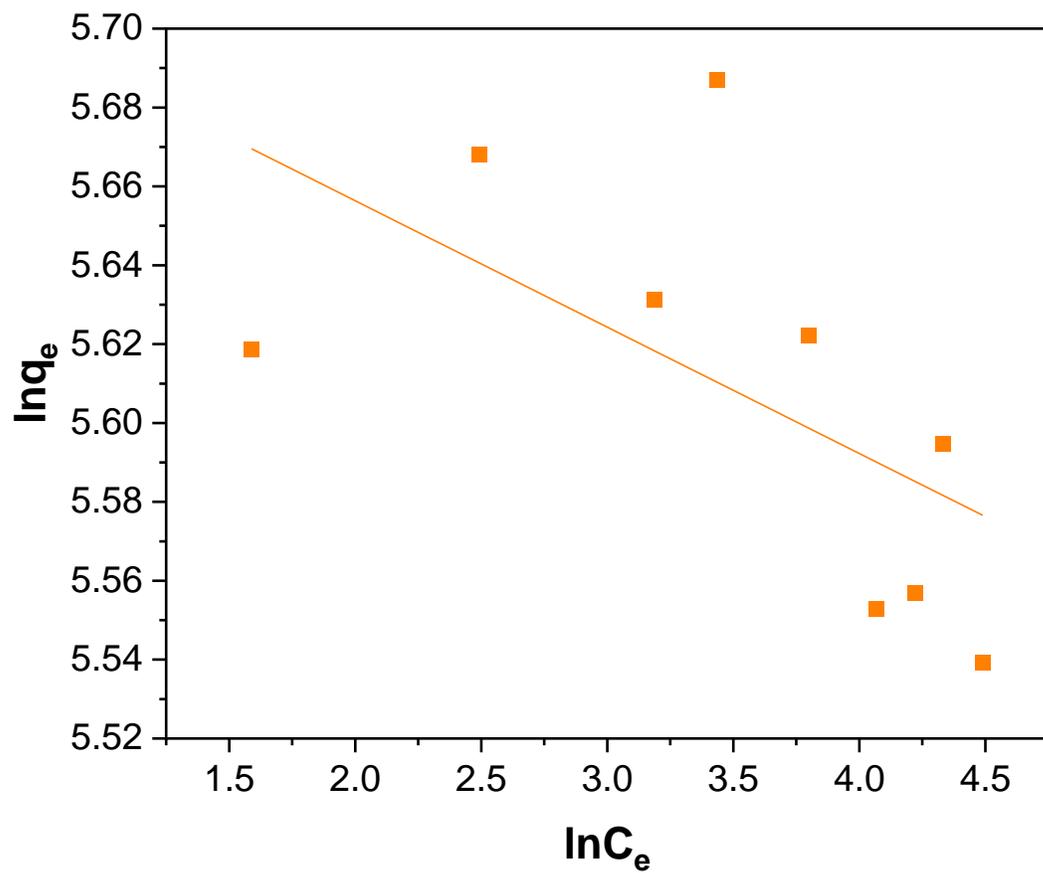


Figure S4 Freundlich isotherm plot for adsorption of Cd(II) over CNTs-Ag₂S.

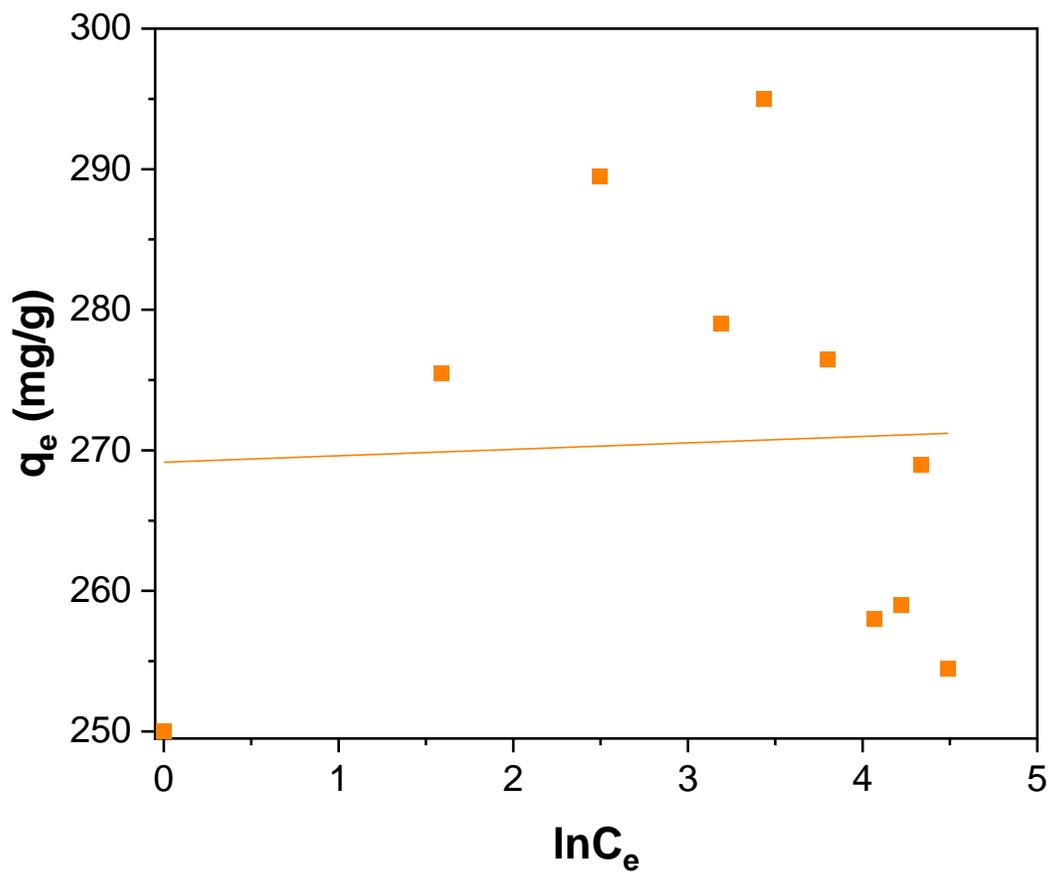


Figure S5 Temkin isotherm plot for adsorption of Cd(II) over CNTs-Ag₂S.

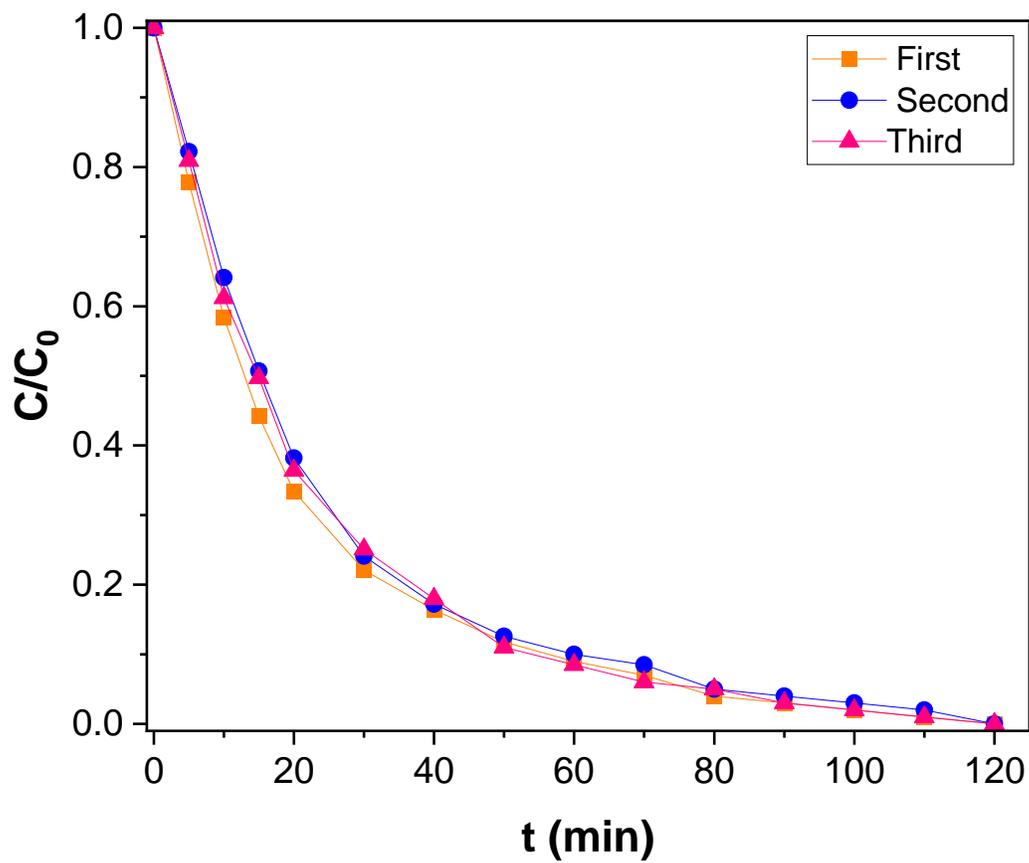


Figure S6 Degradation of alizarin yellow R in presence of CNTs–Ag₂S for successive three cycles under illumination to sunlight.

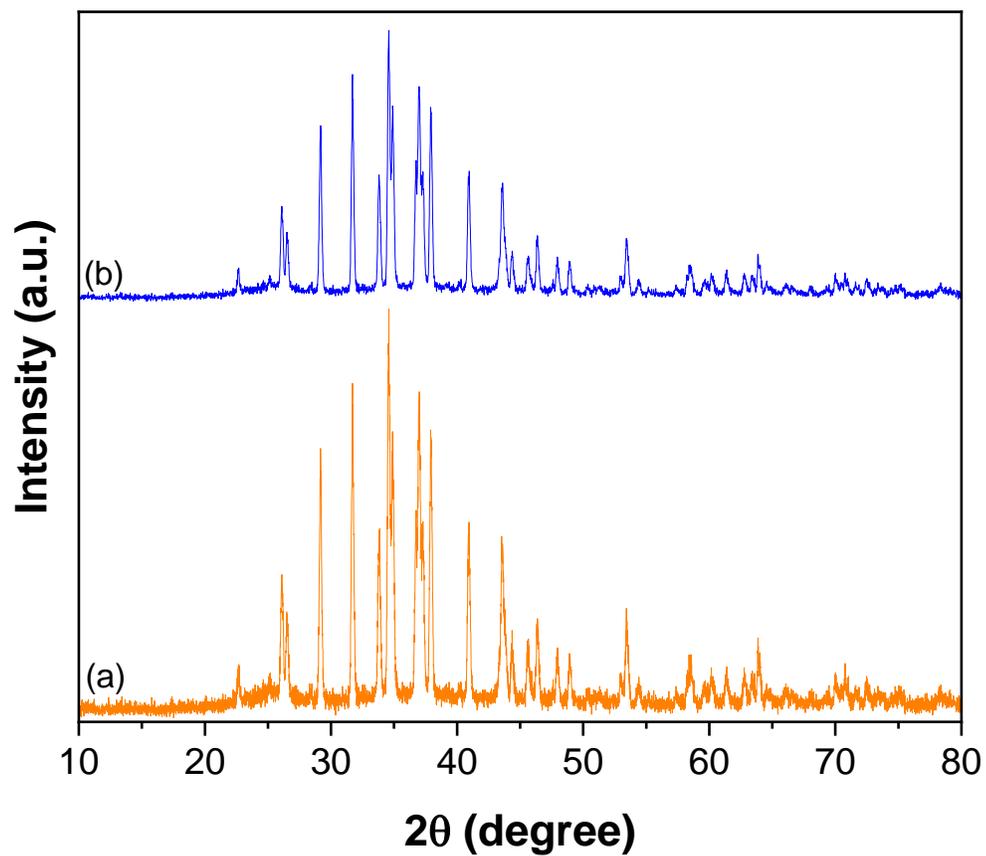


Figure S7 XRD of CNTs–Ag₂S (a) before and (b) after using in successive three cycles of photodegradation of alizarin yellow R under illumination to sunlight.