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Synthesis of bare and surface modified TiO_2 nanoparticles *via* single source precursor and insights into their interactions with Serum Albumin

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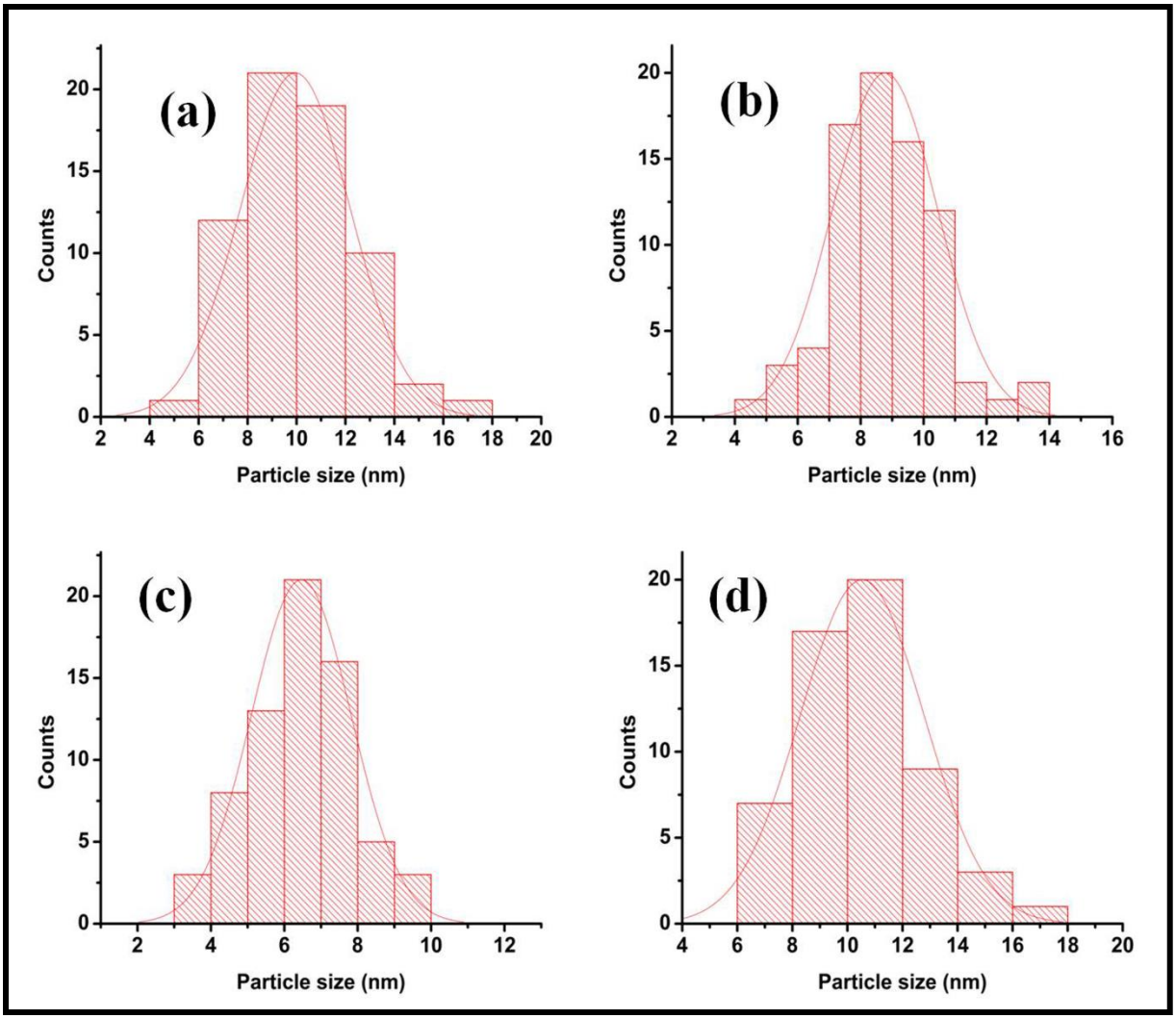

Figure S1 (a). Particle size distribution histogram of CTAB@TiO_2 (a), SDS@TiO_2 (b), Tween 80@TiO_2 (c), and EG@TiO_2 NPs (d).

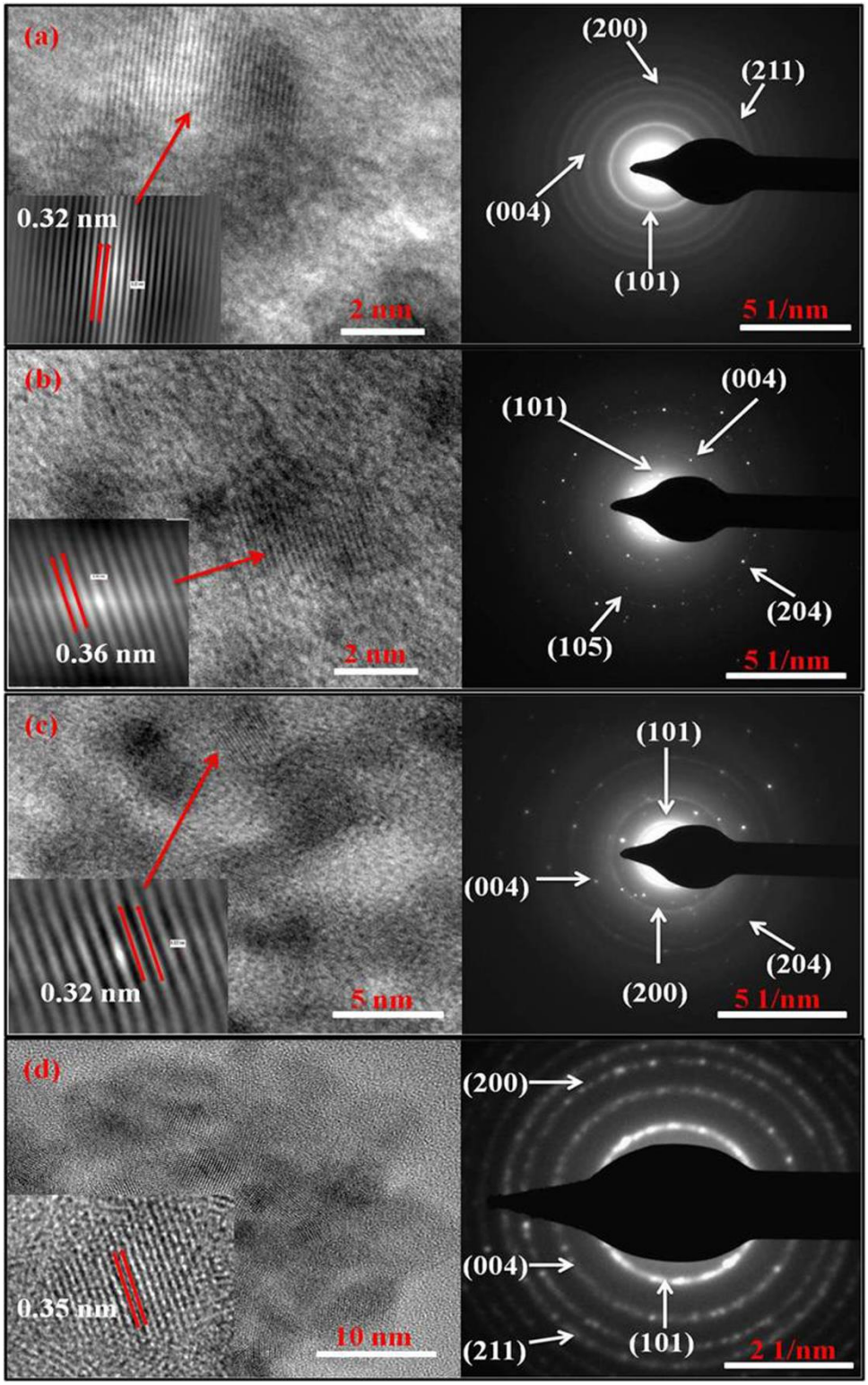

Figure S1 (b). HRTEM and SAED images of CTAB@TiO_2 (a), SDS@TiO_2 (b), Tween 80@TiO_2 (c), and EG@TiO_2 NPs (d).

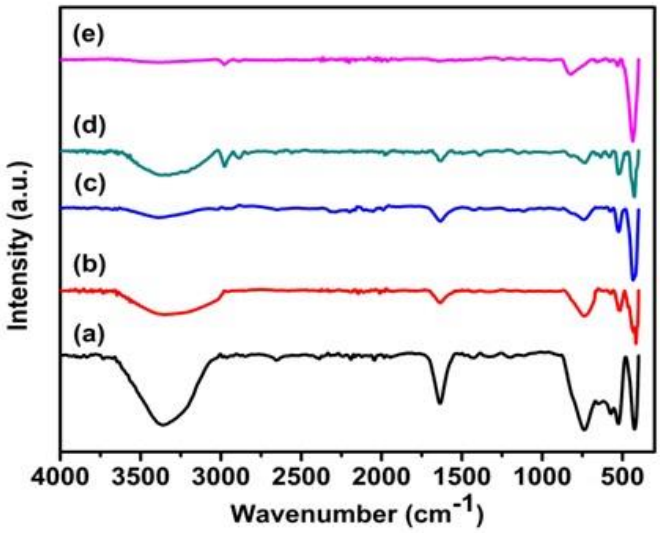

Figure S2. FTIR spectra of TiO_2 NPs bare (a), CTAB@TiO_2 (b), SDS@TiO_2 (c), Tween 80@TiO_2 (d) and EG@TiO_2 NPs (e).

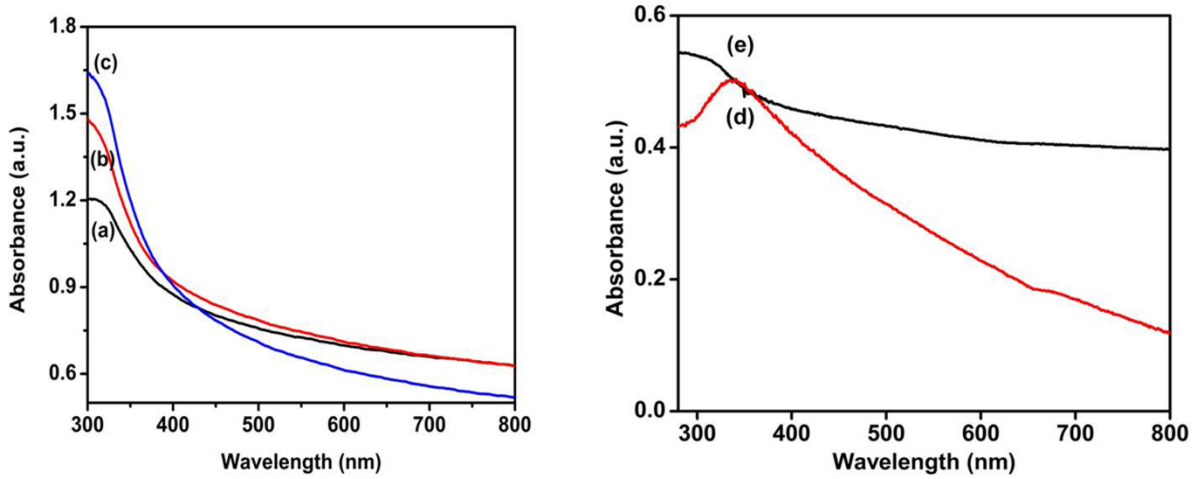

Figure S3. UV-Visible spectra of CTAB@TiO_2 (a), SDS@TiO_2 (b), Tween 80@TiO_2 (c), EG@TiO_2 (d) and bare TiO_2 (e).

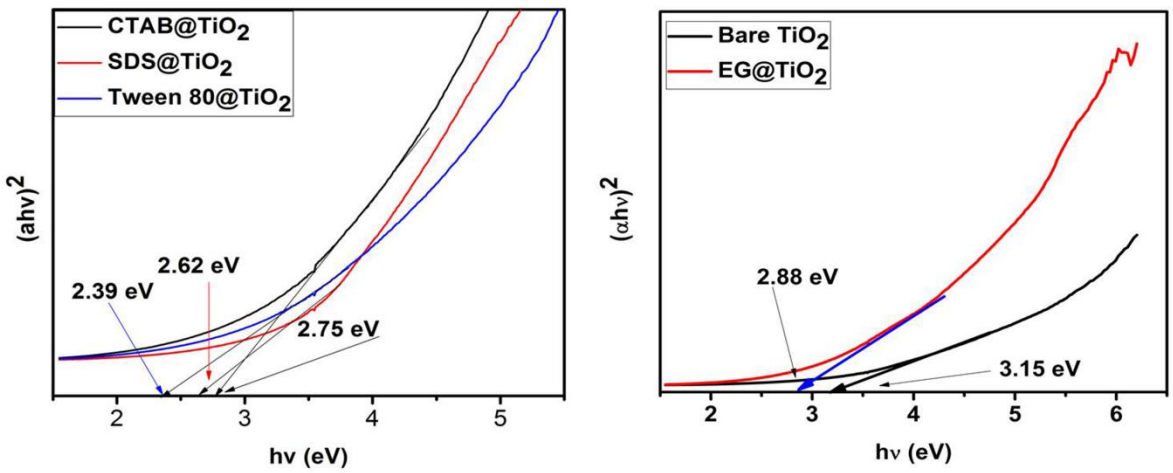

Figure S4. Tauc's plot of CTAB@TiO_2, SDS@TiO_2, Tween 80@TiO_2, EG@TiO_2 and bare TiO_2 NPs.

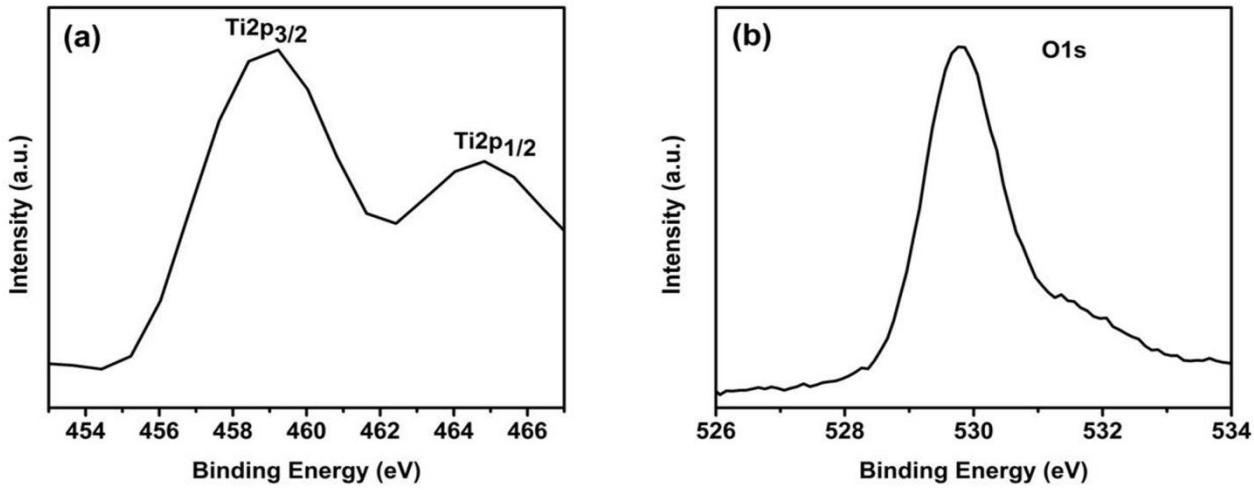

Figure S5. XPS spectra for (a) Ti 2p and (b) O 1s of as-synthesized bare TiO_2 NPs.

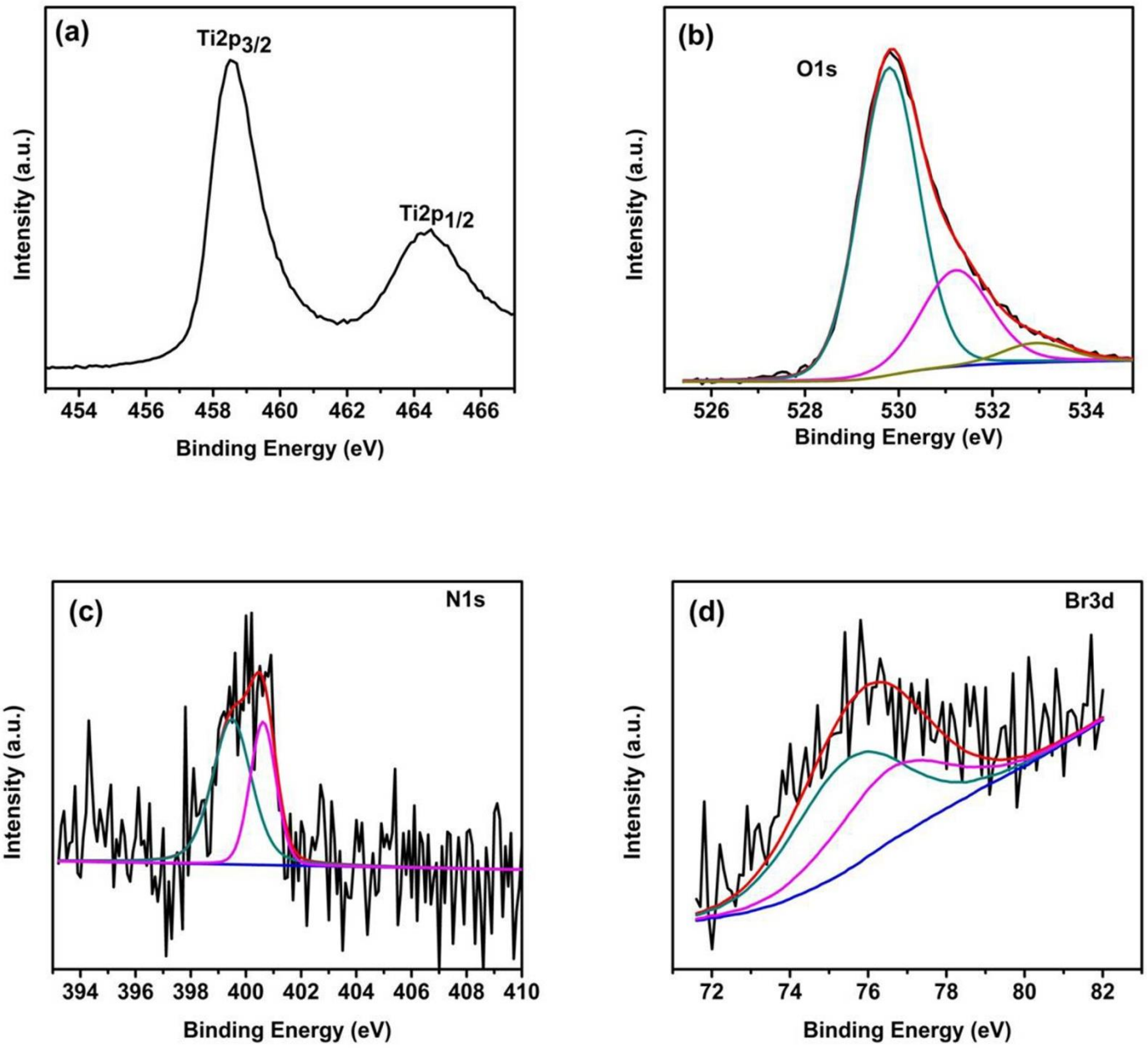

Figure S6. XPS spectra for (a) Ti 2p, (b) O 1s, (c) N 1s and (d) Br 3d of the as-synthesized CTAB@TiO_2 NPs.

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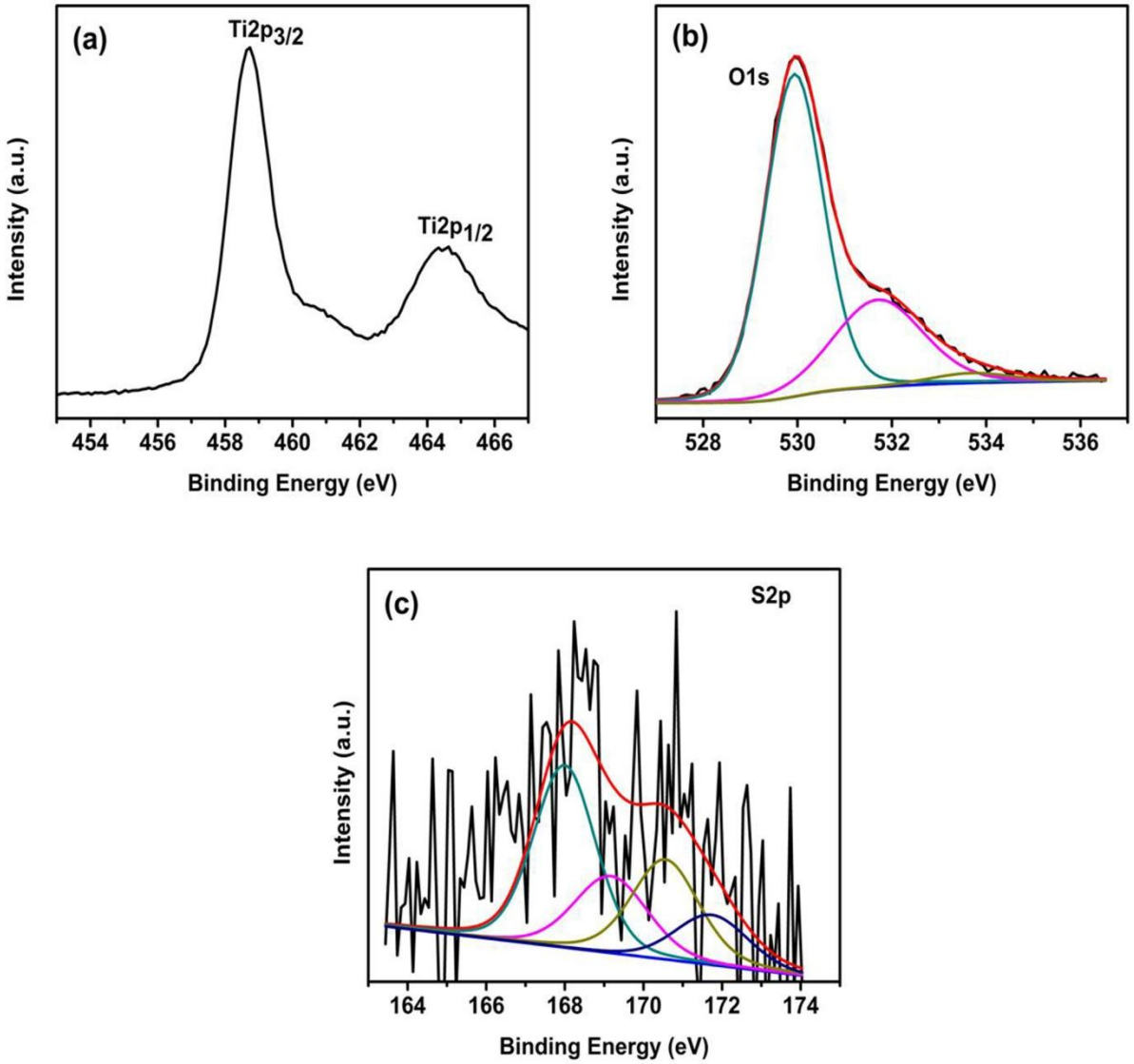

Figure S7. XPS spectra for (a) Ti 2p, (b) O 1s and (c) S 2p of the as-synthesized SDS@TiO_2 NPs.

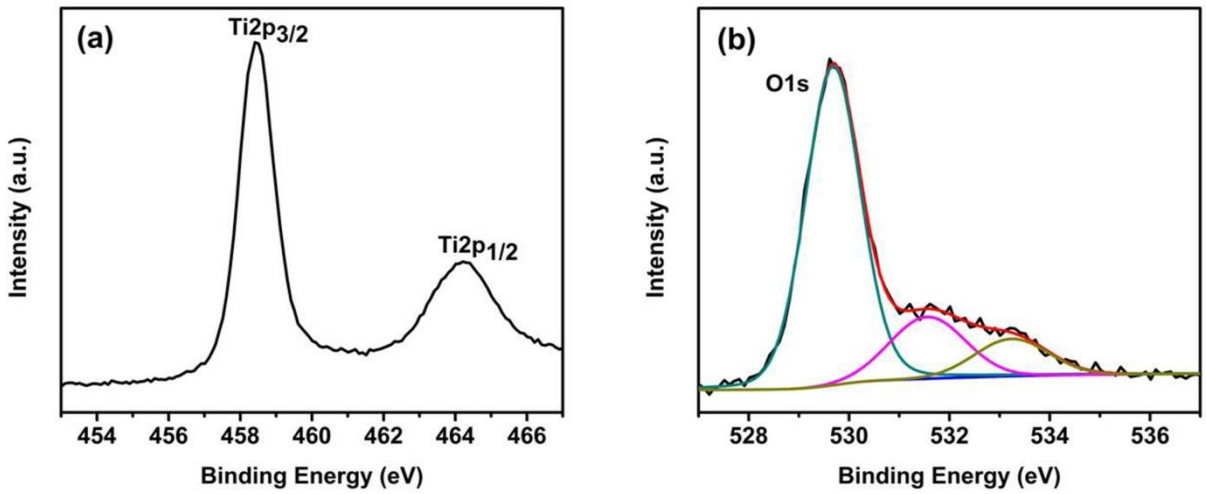

Figure S8. XPS spectra for (a) Ti 2p and (b) O 1s of the as-synthesized Tween 80@TiO_2 NPs.

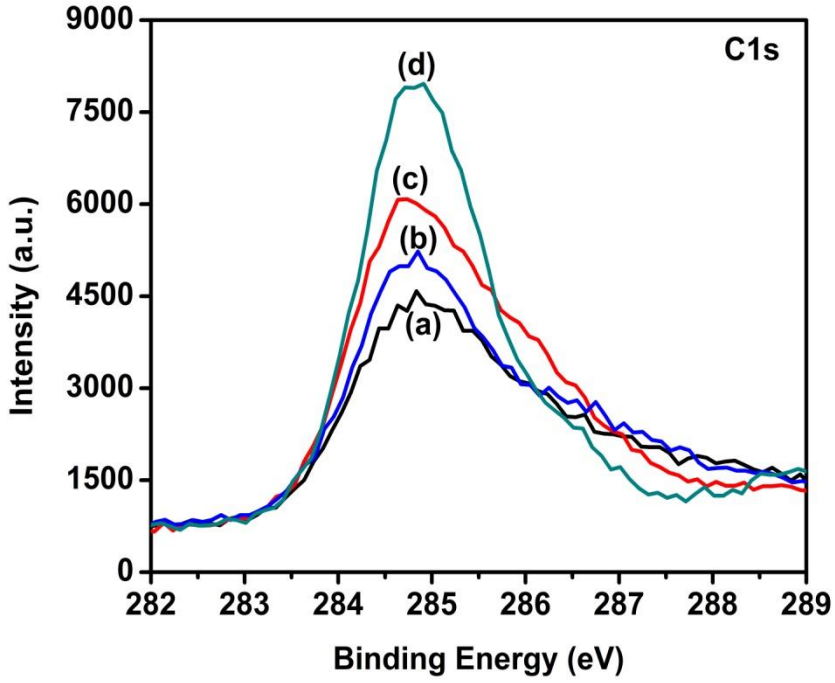

Figure S9. XPS spectra of all C 1s for (a) bare TiO_2 NPs, (b) SDS@TiO_2 NPs, (c) CTAB@TiO_2 NPs and (d) Tween 80@TiO_2 NPs.

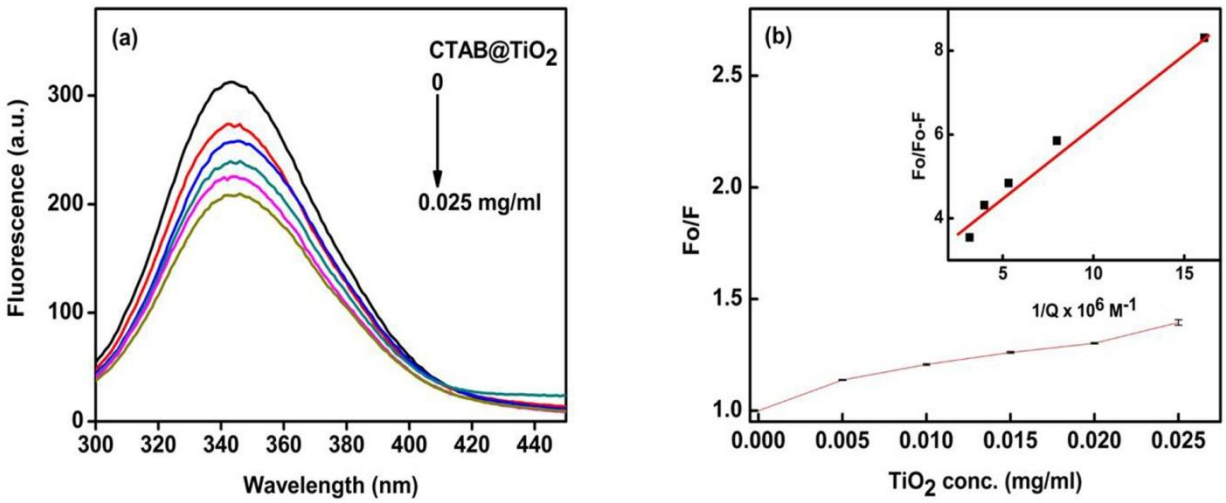

Figure S10. (a) Fluorescence spectra of BSA in absence and presence of varying CTAB@TiO_2 NPs, 10b: Plot of F_0/F versus TiO_2 concentration at 343 nm, SD = ±0.008 for n = 3 and inset: Plot of $F_0/(F_0-F)$ versus 1/[Q].

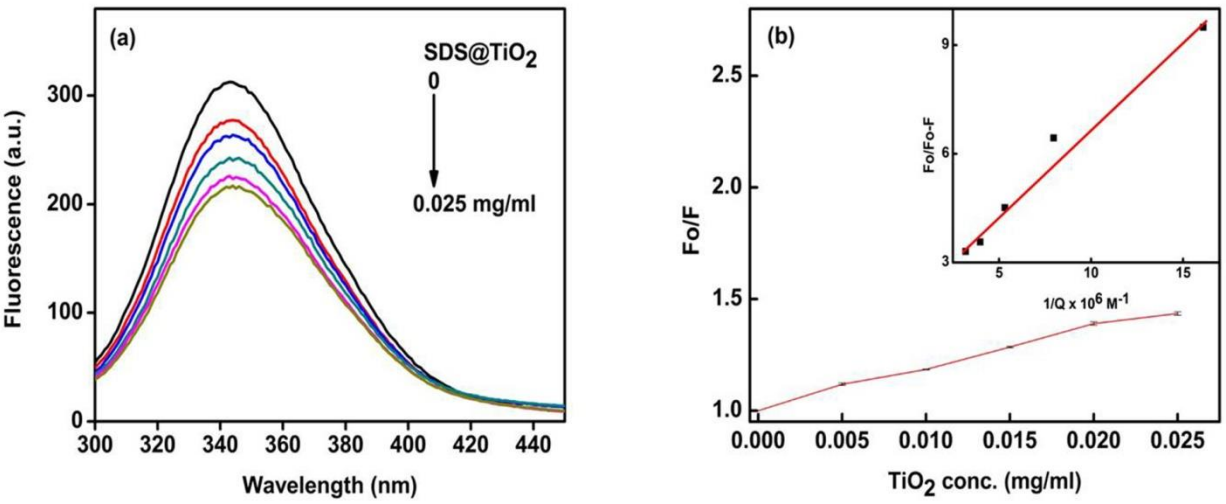

Figure S11. (a) Fluorescence spectra of BSA in absence and presence of varying SDS@TiO_2 NPs, 11b: Plot of F_0/F versus TiO_2 concentration at 343 nm, SD = ±0.008 for n = 3 and inset: Plot of $F_0/(F_0-F)$ versus 1/[Q].

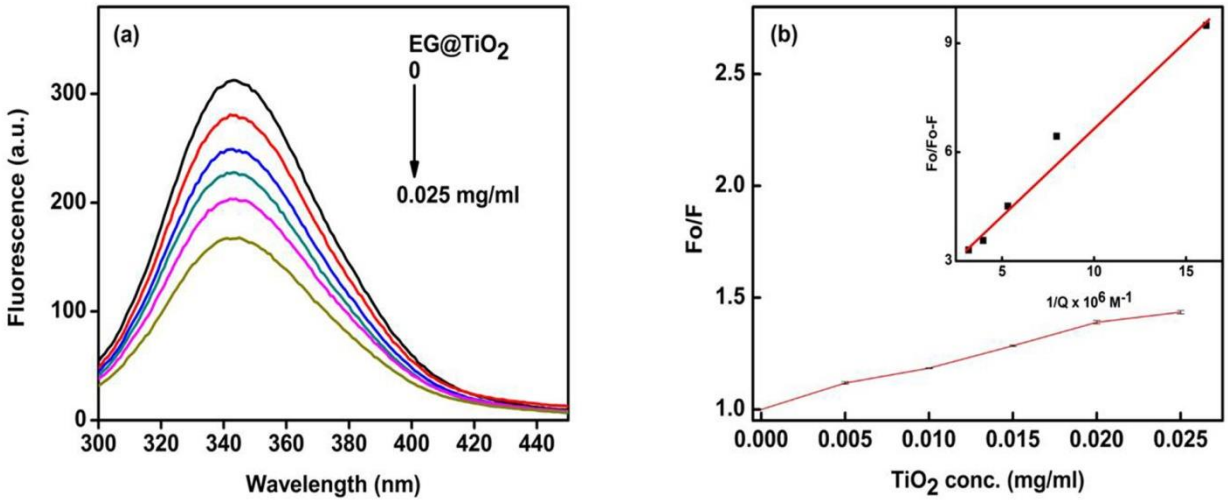

Figure S12. (a) Fluorescence spectra of BSA in absence and presence of varying EG@TiO_2 NPs, 12b: Plot of F_0/F versus TiO_2 concentration at 343 nm, SD = ±0.004 for n = 3 and inset: Plot of $F_0/(F_0-F)$ versus 1/[Q].

Table S1 Hydrodynamic size and PDI of bare and surface modified TiO_2 NPs in absence and presence of BSA.

System	**0h**		**24h**		**System**	**0h**		**24h**	
	PDI	**Size**	**PDI**	**Size**		**PDI**	**Size**	**PDI**	**Size**
Bare TiO_2	1.00	186	1.00	350	Bare TiO_2 +BSA	1.00	274	0.95	429
CTAB@TiO_2	1.00	153	0.90	274	CTAB@TiO_2+BSA	0.78	248	0.74	251
SDS@TiO_2	1.00	122	1.00	255	SDS@TiO_2+BSA	1.00	239	0.88	263
Tween80@TiO_2	0.64	235	0.47	284	Tween80@TiO_2+BSA	0.69	256	0.67	270
EG@TiO_2	1.00	86	1.00	96	EG@TiO_2+BSA	1.00	92	1.00	146