

Supplementary File

Effective La-Na co-doped TiO₂ nano-particles adsorbent for dye removal: Synthesis, characterization and study on adsorption kinetics.

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Figure caption:

Fig. S1 High resolution XPS spectra of Ti 2p of prepared samples.

Fig. S2 High resolution XPS spectra of La 3d of prepared samples.

Fig. S3 High resolution XPS spectra of Na 1s of prepared samples.

Fig. S4 (a) Effect of pH on absorbance spectra of MB dye. **(b)** Amplified image of (a) at pH 7 and pH 9.

Table caption:

Table S1 Area under different peaks obtained from high resolution XPS of different samples.

Table S2 FWHM of different peaks obtained from high resolution XPS of different samples.

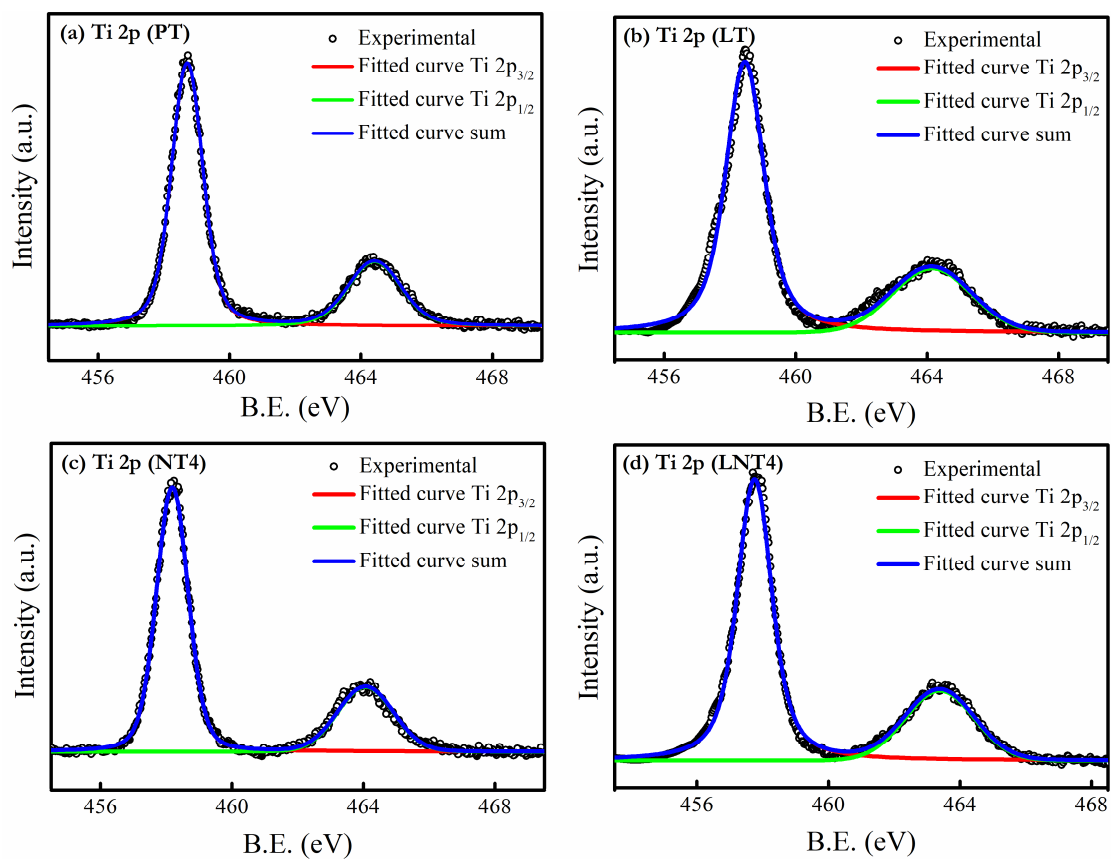


Fig. S1 High resolution XPS spectra of Ti 2p.

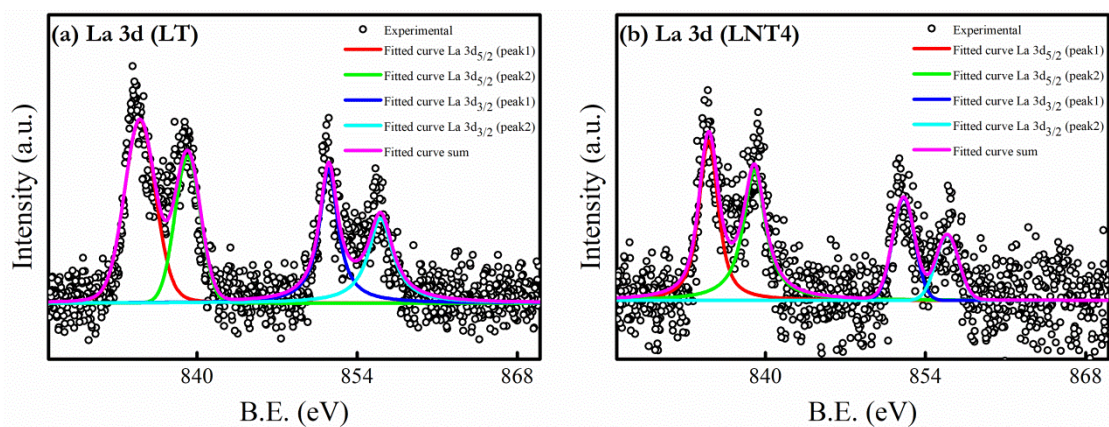


Fig. S2 High resolution XPS spectra of La 3d.

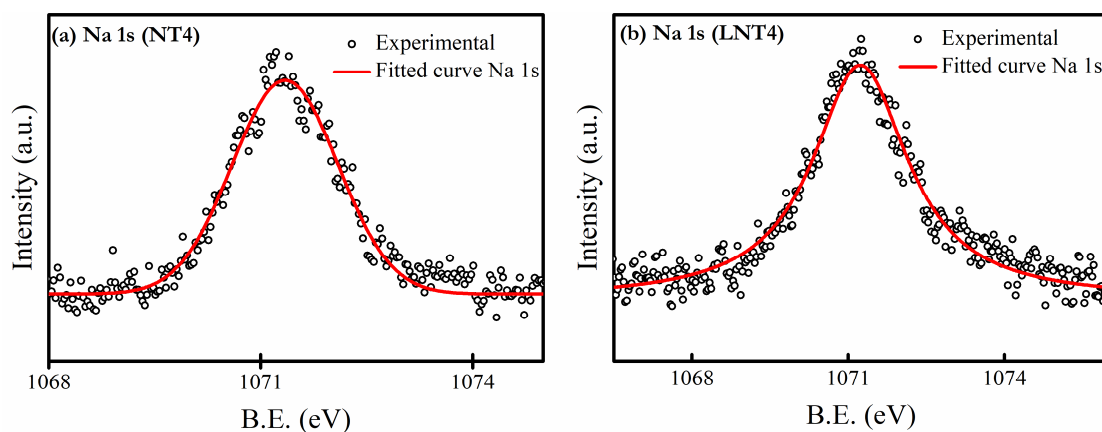


Fig. S3 High resolution XPS spectra of Na 1s.

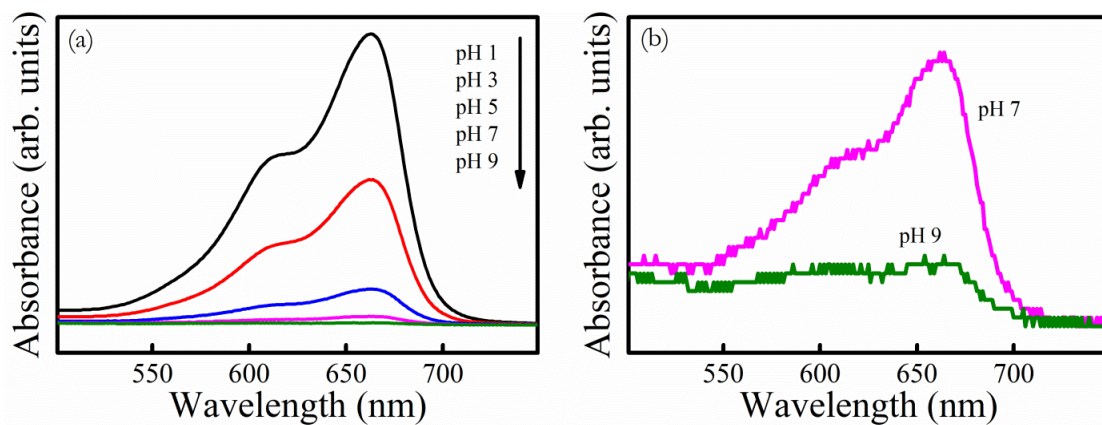


Fig. S4 (a) Effect of pH on absorbance spectra of MB dye. (b) Amplified image of (a) at pH 7 and pH 9.

Table S1 Area under different peaks obtained from high resolution XPS of different samples.

Sample	Area under								
	Ti-O peak	O-H peak	Ti 2p _{3/2} peak	Ti 2p _{1/2} peak	La 3d _{5/2}		La 3d _{3/2}		Na 1s peak
					Peak 1	Peak 2	Peak 1	Peak 2	
PT	8787.77	2526.69	6452.93	2576.94	-	-	-	-	-
LT	8921.57	3991.99	6362.42	2475.54	2782.12	1734.34	1733.14	1456.75	-
NT4	9334.62	4126.57	5770.72	2280.54	-	-	-	-	2452.25
LNT4	9716.55	4273.79	5535.63	2119.75	1861.97	1310.98	696.09	459.29	1628.04

Table S2 FWHM of different peaks obtained from high resolution XPS of different samples.

Sample	FWHM								
	Ti-O peak	O-H peak	Ti 2p _{3/2} peak	Ti 2p _{1/2} peak	La 3d _{5/2}		La 3d _{3/2}		Na 1s peak
					Peak 1	Peak 2	Peak 1	Peak 2	
PT	1.23	2.44	1.13	1.92	-	-	-	-	-
LT	1.22	2.45	1.21	2.15	3.21	2.64	1.96	2.61	-
NT4	1.24	2.64	1.14	2.01					2.23
LNT4	1.20	1.86	1.20	2.12	2.03	2.32	1.85	2.36	1.77