

Figure S1. (A) - Percent of fluoride and phosphate removal from aqueous solution by different molar ratios between La^{3+} and Fe^{3+} ; LDPO 0 - without La^{3+} doped onto surface of the LDPO; LDPO 1:3, LDPO 1:2, LDPO 1:1, LDPO 2:1, and LDPO 3:1 - ratios of molar between La^{3+} and Fe^{3+} onto surface of the LDPO, respectively. (B) - pH of solution simultaneously containing phosphate and fluoride treated by various ratios of molar La between La^{3+} and Fe^{3+} onto surface of the LDPO.

Figure S2. Desorption of phosphate and fluoride from the surface of LDPO as a function of pH.

Figure S3. Phosphate and fluoride removal efficiency in wastewater samples under different sorbent dosage.

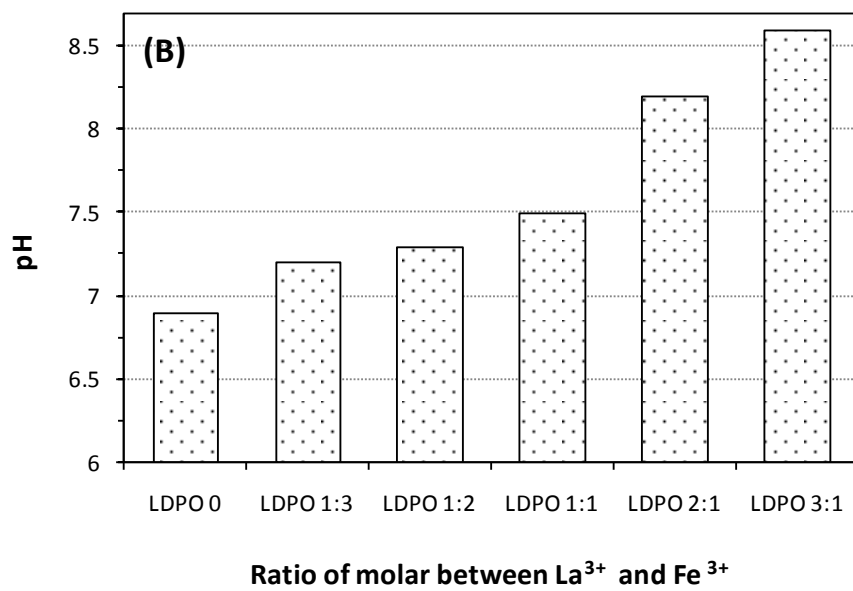
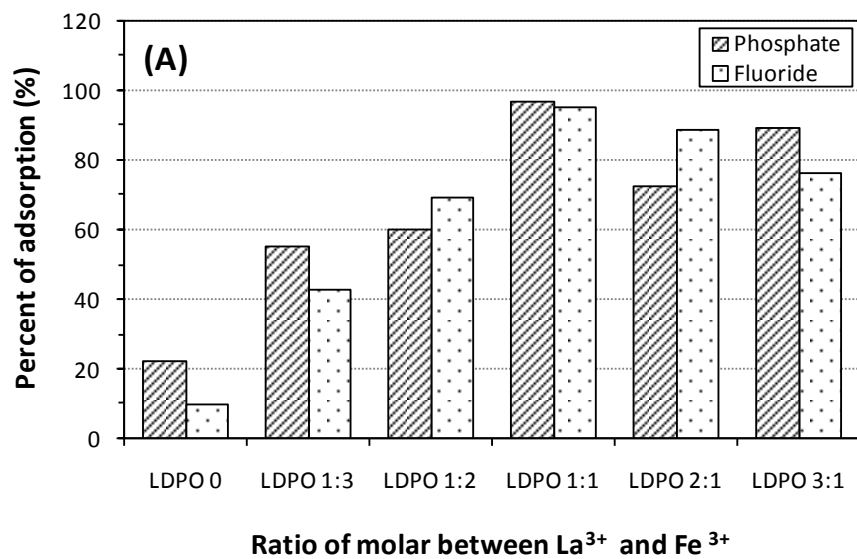


Fig. S1.

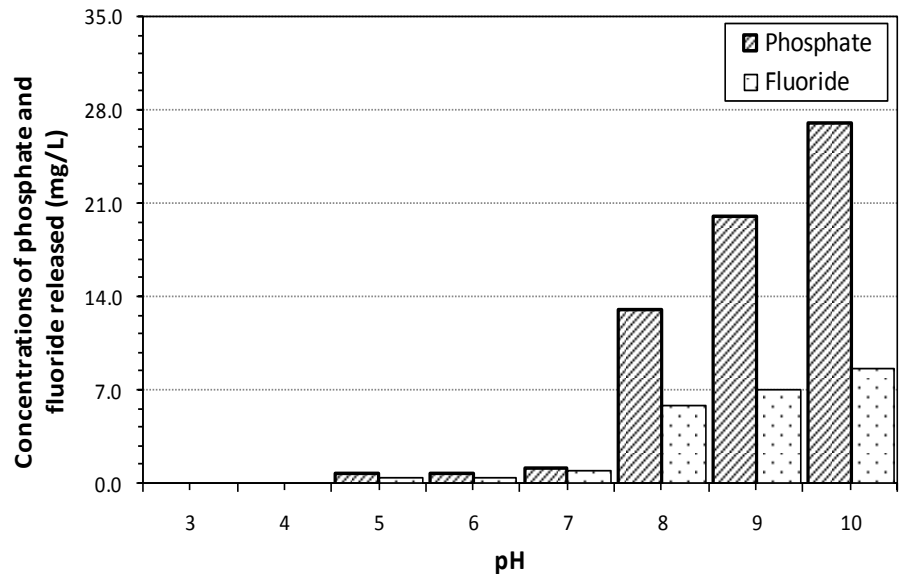


Fig. S2.

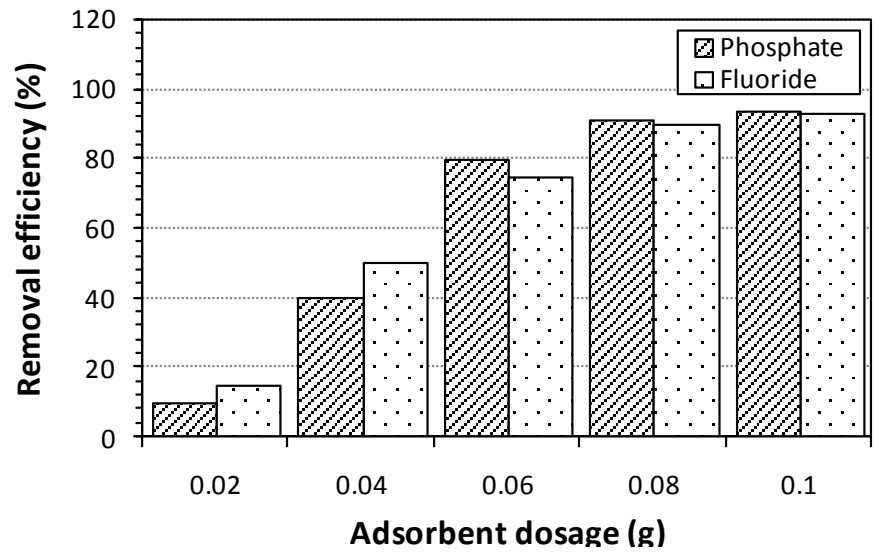


Fig. S3.

Table S1. Composition of elements in natural Pyrolusite ore and La-doped Pyrolusite ore

	C	O	Na	Al	Si	K	Mn	Fe	Cu	La	Total
Natural Pyrolusite ore	16.48	37.56	0.62	2.98	0.25	0.10	29.36	8.42	3.98	0.00	100
La-doped Pyrolusite ore	9.2	35.18	0.48	1.53	0.4	0.15	22.6	7.48	3.17	19.81	100

Table S2. Wastewater composition in Superphosphate Fertilizer factory

Component	Phosphate	Arsenic total	Fluoride	Sulfate	Silicate	Chloride	pH
Concentration (mg/L)	13.72	0.75	4.68	10.28	3.42	45.19	6.8