Electronic Supplementary Tables and Figures for:

Antibiotics detoxification from synthetic and real effluents using a novel MTAB surfactant-montmorillonite (organoclay) sorbent

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Number of pages (including cover sheet) = 9

Number of Supplementary Tables = 4

Number of Supplementary Figures = 7

Table S1. The compositions of synthetic effluents containing amoxicillin and ampicillin

Effluents[*]	Amoxicillin (g)	Ampicillin (g)
A	0.2614	0.0871
B	0.1749	0.1751
C	0.0879	0.2637

[*]Volume of the effluents: 1 L

Table S2. Textural properties of Na-MMT and O-MMT adsorbents

Adsorbents	S_{BET} (m^2/g)	S_{mic} (m^2/g)	S_{ext} (m^2/g)	V_{mic} (cm^3/g)	V_{ext}[a] (cm^3/g)	V_{T} (cm^3/g)
Na-MMT	122.2	46.5	72.2	0.027	0.085	0.112
O-MMT	65.8	17.3	44.9	0.010	0.045	0.055

[a]$V_{ext} = V_{T} - V_{mic}$

Table S3. Elemental contents of Na-MMT and O-MMT adsorbents

Adsorbents	Carbon (wt%)	Nitrogen (wt%)	Carbon/Nitrogen
Na-MMT	-	-	-
O-MMT	12.1	0.83	14.58

Table S4. The compositions of real pharmaceutical effluents

Sampling Point	pH	Concentration (mmol/L)				
		Amoxicillin	Ampicillin	Ciprofloxacin	Chloramphenicol	Cefotaxime
A	5.72	0.17	0.14	6.44×10^{-3}	4.86×10^{-3}	1.84×10^{-3}
B	5.91	0.15	0.09	6.78×10^{-3}	4.64×10^{-3}	1.88×10^{-3}
C	5.85	0.17	0.11	6.56×10^{-3}	5.02×10^{-3}	1.82×10^{-3}
D	6.07	0.16	0.12	7.05×10^{-3}	4.71×10^{-3}	1.75×10^{-3}
E	5.63	0.15	0.09	6.82×10^{-3}	4.92×10^{-3}	1.91×10^{-3}
AVC[*]		0.16	0.11	6.73×10^{-3}	4.83×10^{-3}	1.84×10^{-3}

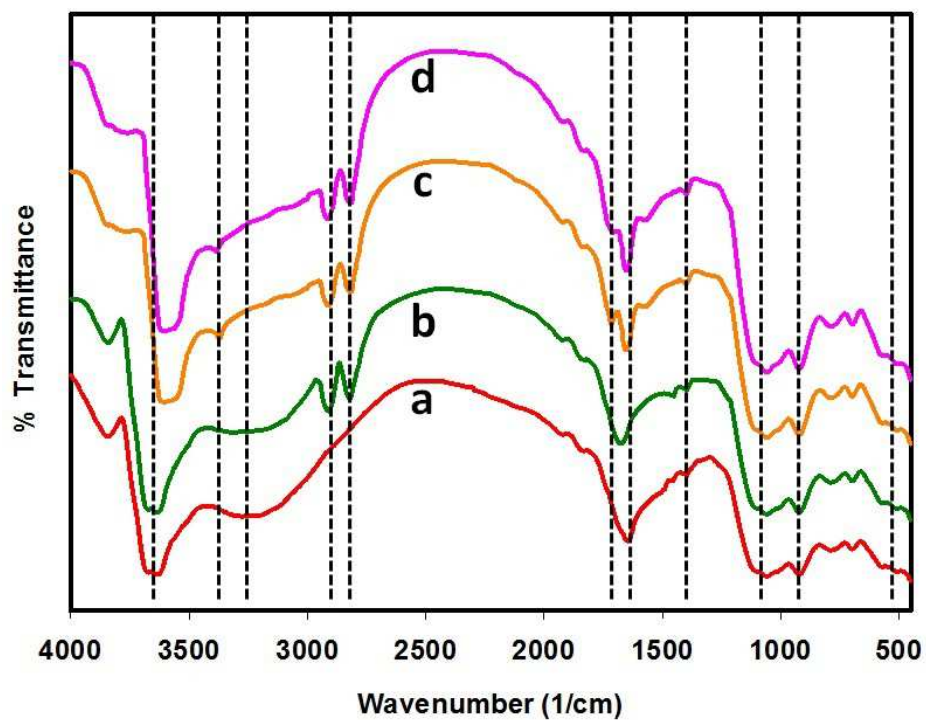[*]AVC = average concentrations of each antibiotic in the effluents
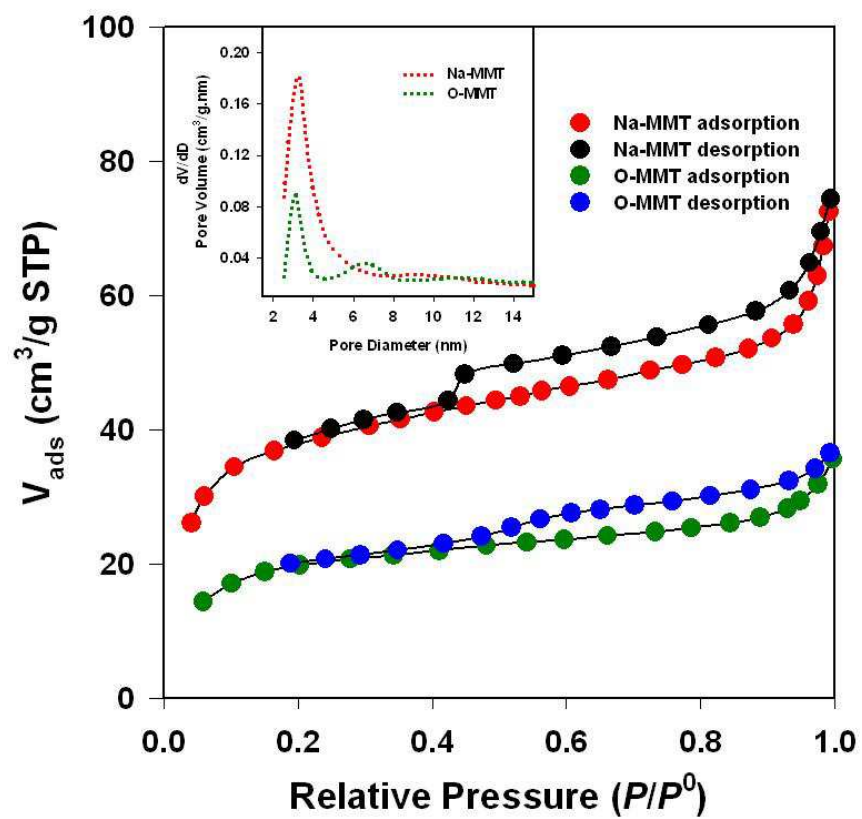
Figure S1. Nitrogen adsorption/desorption isotherms of Na-MMT and O-MMT at 77.15 K
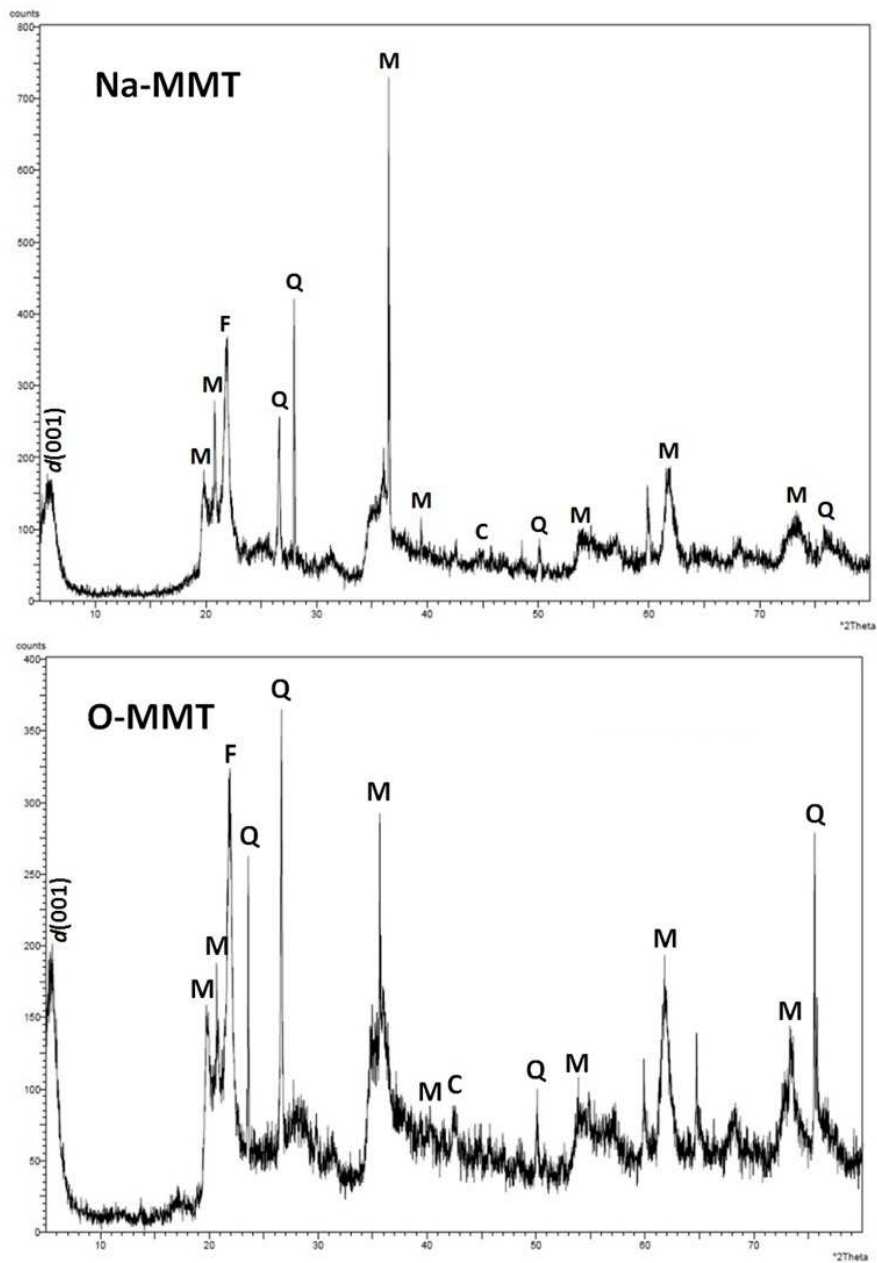
(inset figure is the BJH pore size distribution curves)
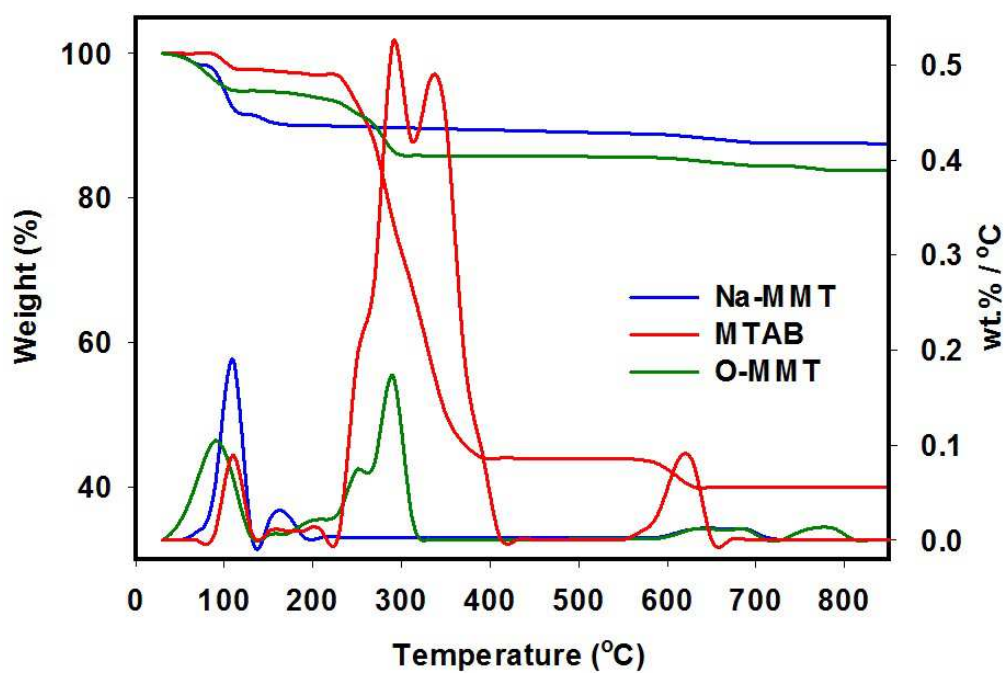
Figure S2. TG-DTG curves for bare MTAB surfactant, Na-MMT and organically-modified
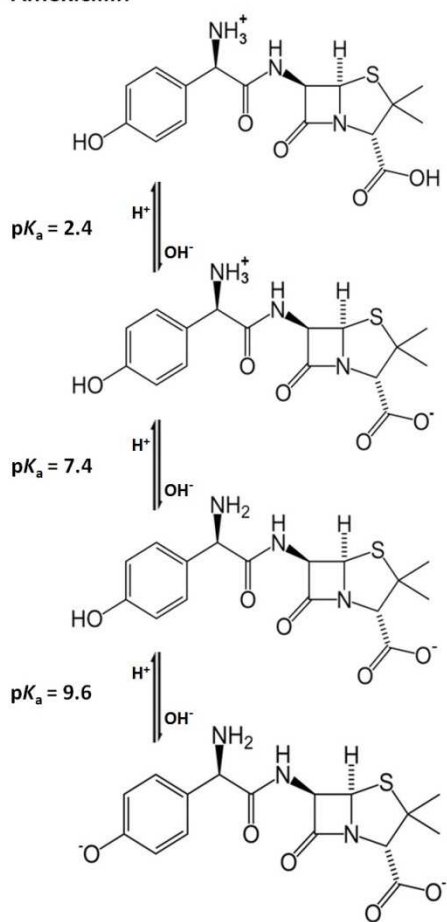
montmorillonite (O-MMT)

Figure S3. FT-IR transmittance spectra of Na-MMT (a), O-MMT (b), O-MMT after antibiotics sorption (c) and O-MMT after desorption by 0.1 M $CaCl_2$ solution (d)
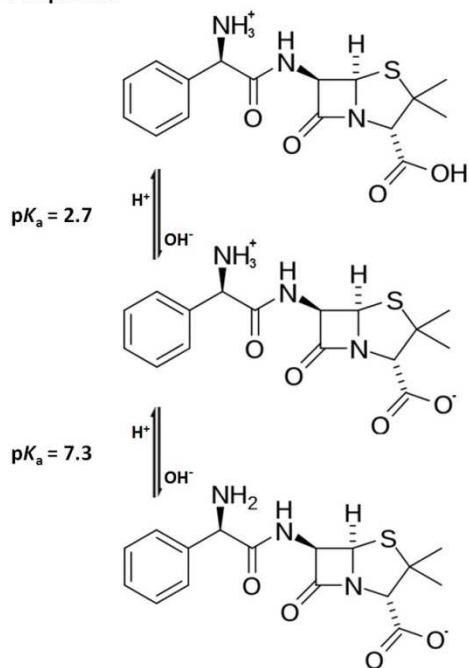
Figure S4. X-ray diffraction patterns of Na-MMT and O-MMT

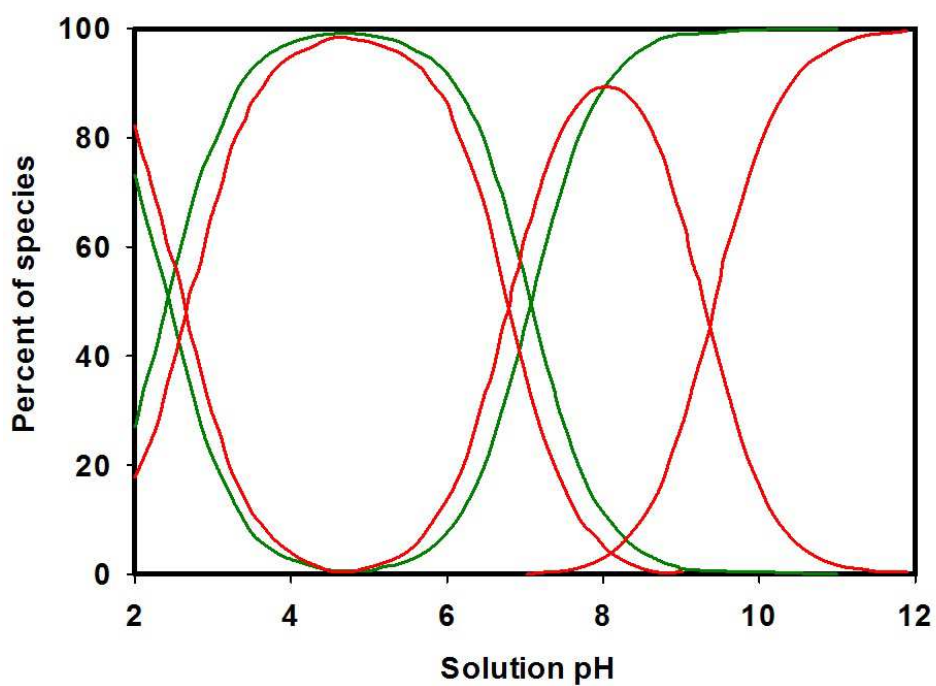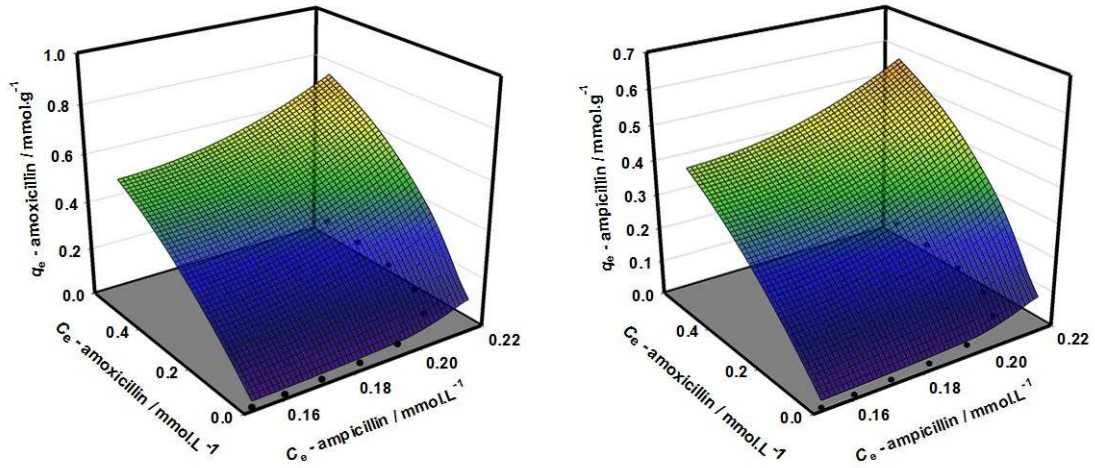(*d*(001) – basal spacing; M – montmorillonite; F – feldspars; Q – quartz; C – calcite)

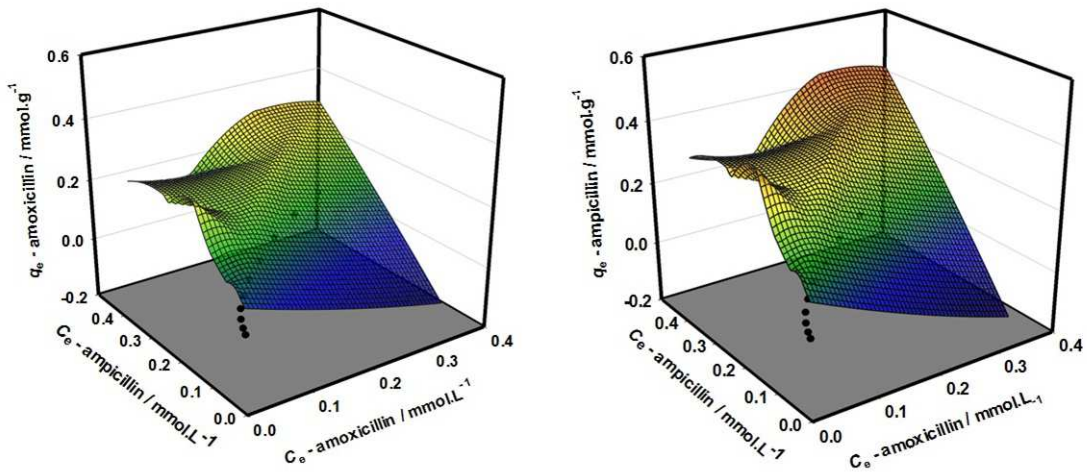**Figure S5.** Ionic speciations of amoxicillin and ampicillin with variation of solution pHs

Figure S6. Distribution diagrams of amoxicillin and ampicillin species at room temperature
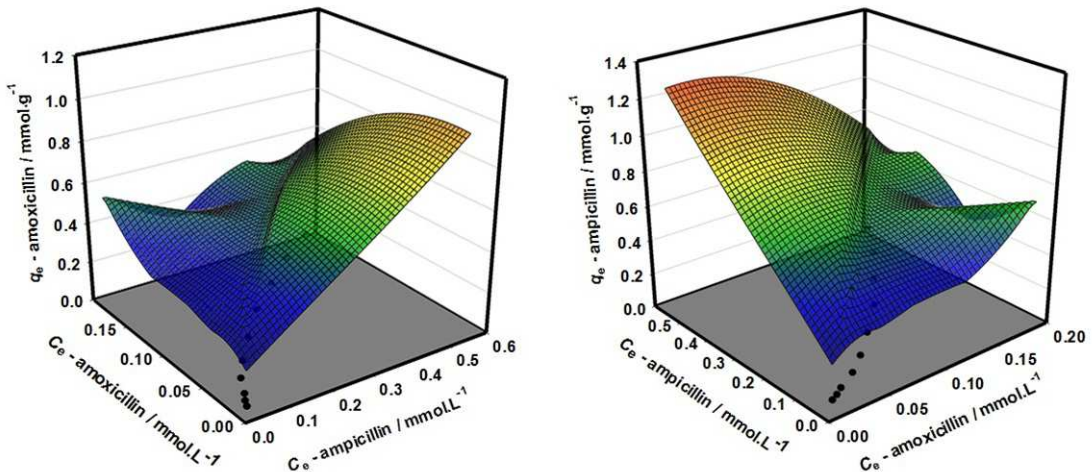
(303.15 K) and different solution pHs

Figure S7. Correlation results of binary adsorption equilibrium data of mixtures containing amoxicillin and ampicillin as predicted with the original extended-Langmuir model