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**Supplementary material**

**Arsenic removal from water using a one-pot synthesized low cost mesoporous  
Fe-Mn modified biosorbent**

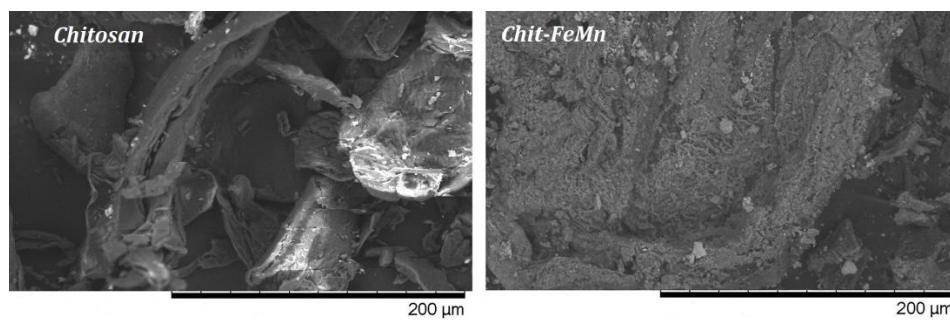
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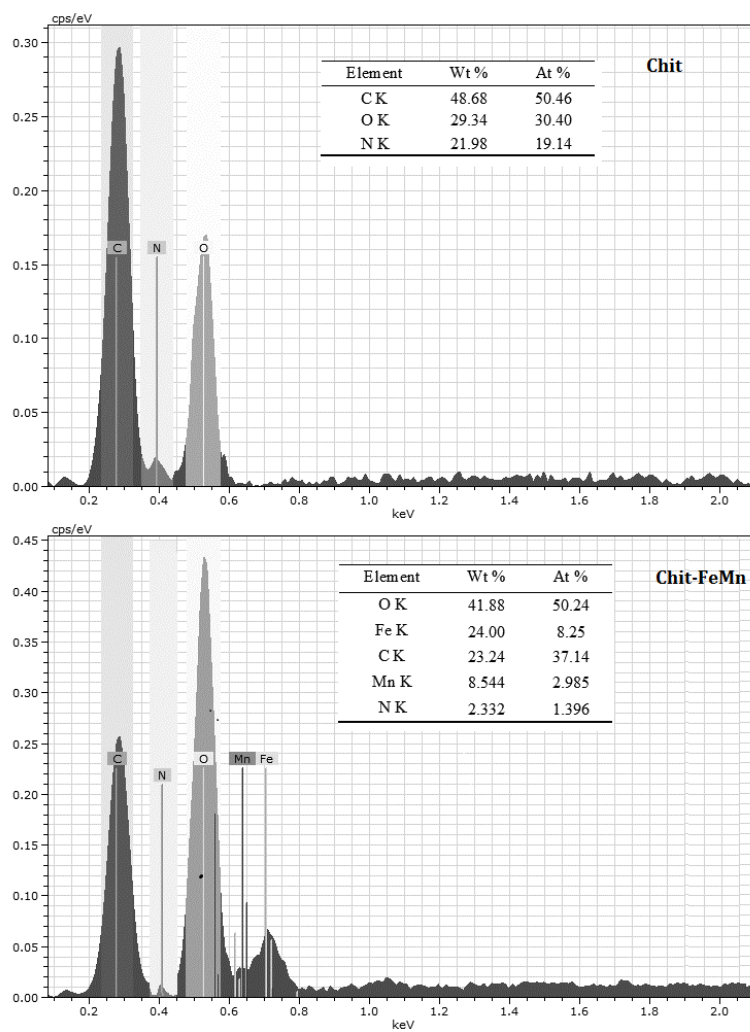
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Figure S1. SEM images of Chit and Chit-FeMn



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Figure S2. EDS analysis graph of Chit and Chit-FeMn

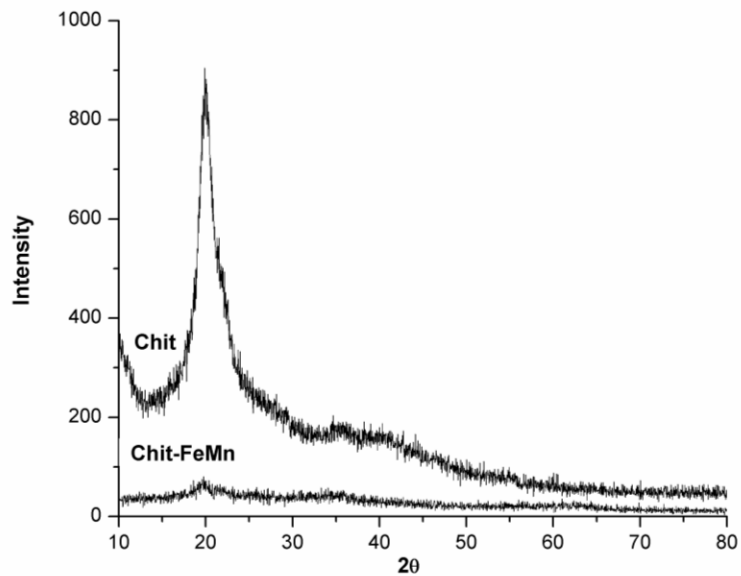


Figure S3. XRD patterns of Chit and Chit-FeMn

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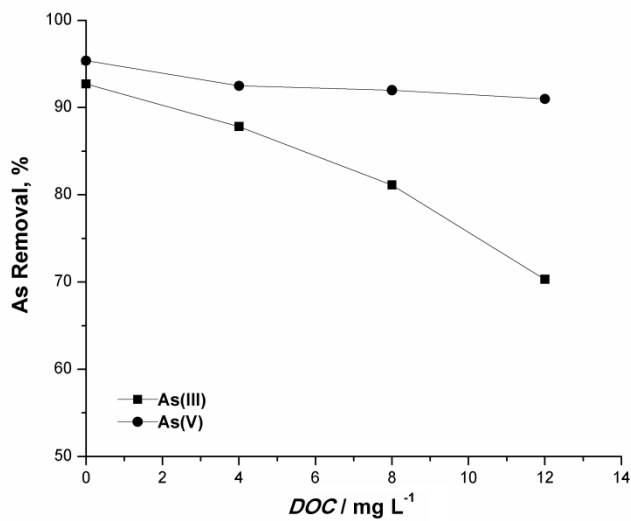


Figure S4. Effect of NOM on As(III) and As(V) removal by Chit-FeMn. Initial As concentration 0.5 mg L<sup>-1</sup>, sorbent dose 0.5 g L<sup>-1</sup>, pH = 7.0±0.2

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48 TABLE SI. Diffusion parameters for adsorption of As(III) and As(V) onto Chit and Chit-FeMn

Intra particle diffusion parameters				
	$K_i / \mu\text{g g}^{-1} \text{min}^{-0.5}$	$C_i / \mu\text{g g}^{-1}$	SSE	$R^2$
As(III)				
Chit	<sup>a</sup> 21.9	21.9	861	0.9826
	<sup>b</sup> 0.756	249	40	0.4880
Chit-FeMn	<sup>a</sup> 30.7	25.0	481	0.9932
	<sup>b</sup> 16.4	16.4	521	0.9794
	<sup>c</sup> 5.70	5.70	3.23	0.9918
As(V)				
Chit	<sup>a</sup> 9.94	427	477	0.9744
	<sup>b</sup> 0.206	617	17.9	0.9742
Chit-FeMn	<sup>a</sup> 46.1	134	2030	0.9656
	<sup>b</sup> 10.1	518	309	0.9681
	<sup>c</sup> 3.64	682	3.82	0.9938

49 <sup>a</sup>First, <sup>b</sup>second and <sup>c</sup>third linear regions.

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51 TABLE SII. Characteristics of the contaminated groundwater

Parameter	Unit	
pH	8.27	
Conductivity	727	$\mu\text{S cm}^{-1}$
Hardness	165	$\text{mg L}^{-1}$
As	35	$\mu\text{g L}^{-1}$
Fe	0.213	$\text{mg L}^{-1}$
Mn	0.016	$\text{mg L}^{-1}$
Phosphate	0.391	$\text{mg L}^{-1}$
Sulfate	41.02	$\text{mg L}^{-1}$
Nitrate	0.169	$\text{mg L}^{-1}$
Chloride	6.12	$\text{mg L}^{-1}$
DOC	5.54	$\text{mg L}^{-1}$
UV	0.209	$\text{cm}^{-1}$

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