Supporting Information

Development of Magnetic Particles Encrusted LDH Admixed Biopolymeric
Complex Beads for Selective Phosphate Remediation

Ilango Aswin Kumar and Natrayasamy Viswanathan*

Department of Chemistry, Anna University, University College of Engineering - Dindigul,
Reddiyarchatram, Dindigul - 624 622, Tamilnadu, India.

* Corresponding author. Tel.: +91-451-2554066; fax: +91-451-2554066.
E-mail address: drnviswanathan@gmail.com (N. Viswanathan)
Figure S1. XRD spectra of the regenerated both MCSHT composite beads and MA1gHT composite beads.
Figure S2. SEM images of (A) regenerated MCSHT composite beads; (B) PO$_4^{3-}$ sorbed regenerated MCSHT composite beads; (C) regenerated MAlgHT composite beads; and (D) PO$_4^{3-}$ sorbed regenerated MAlgHT composite beads.
Table S1. ICP-OES Analysis of Fe Content in both MCSHT and MAlgHT Composite Beads.

<table>
<thead>
<tr>
<th>Metal content</th>
<th>Atomic weight percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MCSHT composite beads</td>
</tr>
<tr>
<td>Fe</td>
<td>5.27±02</td>
</tr>
</tbody>
</table>
Figure S3. pHzc results of MCSHT and MAlgHT composite beads for PO$_4^{3-}$ adsorption.
Figure S4. The selectivity of both MCSHT and MAIgHT composite beads toward PO$_4^{3-}$ adsorption under different adsorbate medium at 60 min.
Figure S5. Experimentally measured raw isotherms for PO$_4^{3-}$ sorption by MCSHT composite beads from 80 to 140 mg L$^{-1}$ at (A) 303; (B) 313; and (C) 323 K respectively.
Figure S6. Experimentally measured raw isotherms for PO$_4^{3-}$ sorption by MAIgHT composite beads from 80 to 140 mg L$^{-1}$ at (A) 303; (B) 313; and (C) 323 K respectively.
Figure S7. Arian model of both MCSHT and MAIgHT composite beads toward PO$_4^{3-}$ removal at 303K.
Figure S8. Reuse performance of MCSHT and MAlgHT composite beads for PO$_4^{3-}$ adsorption.