**Supplementary material**

# Green remediation of Cd and Hg contaminated soil using humic acid modified montmorillonite: immobilization performances and ageing features

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Table S1 Surface chemical composition of Mont and HA-Mont.

| Elements | Mont | | HA-Mont | |
|---|---|---|---|---|
| | Mass percent (wt. %) | Atomic percent (at. %) | Mass percent (wt. %) | Atomic percent (at. %) |
| N | 2.11 | 2.73 | 3.87 | 5.05 |
| O | 58.34 | 66.11 | 43.89 | 50.10 |
| Na | 0.04 | 0.03 | 0.06 | 0.05 |
| Mg | 1.54 | 1.15 | 0.98 | 0.73 |
| Al | 5.99 | 4.02 | 4.88 | 3.30 |
| Si | 22.54 | 14.55 | 28.60 | 18.60 |
| K | 0.32 | 0.15 | 0.98 | 0.46 |
| Ca | 1.17 | 0.53 | 0.58 | 0.26 |
| Ti | 0.17 | 0.06 | 0.06 | 0.02 |
| Fe | 0.89 | 0.29 | 0.90 | 0.29 |

Table S2 Freundlich isotherm model parameters.

| Metal ion | Adj. $R^2$ | K | | n | |
|---|---|---|---|---|---|
| | | Value | SE | Value | SE |
| $Hg^{2+}$ | 0.982 | 1.114 | 0.252 | 1.376 | 0.165 |
| $Cd^{2+}$ | 0.984 | 5.048 | 0.367 | 1.316 | 0.147 |

Table S3 Pseudo-second-order kinetic model parameters.

| Metal ion | Adj. $R^2$ | $k_2$ | | $q_e$ | |
|---|---|---|---|---|---|
| | | Value ($g \cdot mg^{-1} \cdot min^{-1}$) | SE | Value (mg/g) | SE |
| $Hg^{2+}$ | 0.965 | 0.004 | 0.001 | 8.547 | 0.187 |
| $Cd^{2+}$ | 0.987 | 0.023 | 0.001 | 9.823 | 0.030 |

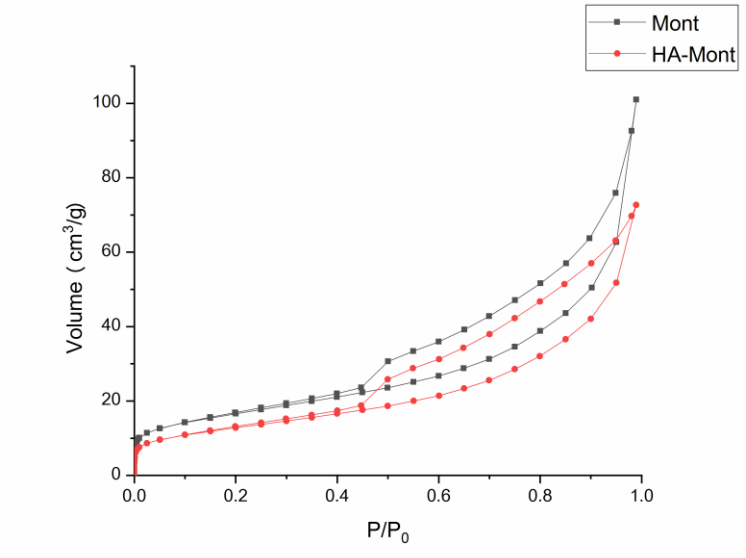


Fig. S1. Adsorption/desorption of nitrogen at 77 K of montmorillonite and HA-Mont.