Supplementary Material

In Situ Steam-Assisted Synthesis of CTAB-Modified Geopolymer-Based Hectorite for Enhanced Adsorption of Congo Red

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Table S1. Reaction parameters.

Figure S1. XRD of CTAB-modified geopolymer-based hectorite synthesized from depolymerized montmorillonite geopolymer.

Figure S2. XRD of CTAB-modified geopolymer-based hectorite synthesized fromdepolymerized kaolin geopolymer.

Figure S3. SEM image of 0%CTAB-H-M (a) and 20%CTAB-H-M synthesized by depolymerized montmorillonite geopolymer (b).

Figure S4. SEM image of 0%CTAB-H-M (a) and 20%CTAB-H-M synthesized by depolymerized kaolin geopolymer (b).

Table S1. Reaction parameters.

Sample	The amount of CTAB added (g)	Starting compositions			Temp (K)	Time (h)
		Geopolymers (g)	$Mg(OH)_2$ (g)	$LiOH{\cdot}H_2O$ (g)		
0%CTAB-H	0	1	0.58	0.21	473	24
5%CTAB-H	0.09	1	0.58	0.21	473	24
10%CTAB-H	0.18	1	0.58	0.21	473	24
20%CTAB-H	0.36	1	0.58	0.21	473	24
30%CTAB-H	0.54	1	0.58	0.21	473	24

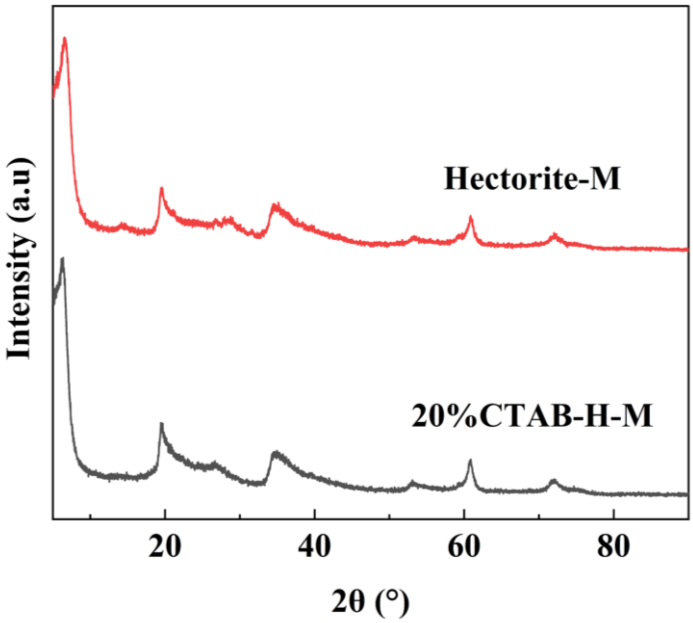


Figure S1. XRD of CTAB-modified geopolymer-based hectorite synthesized from depolymerized montmorillonite geopolymer.

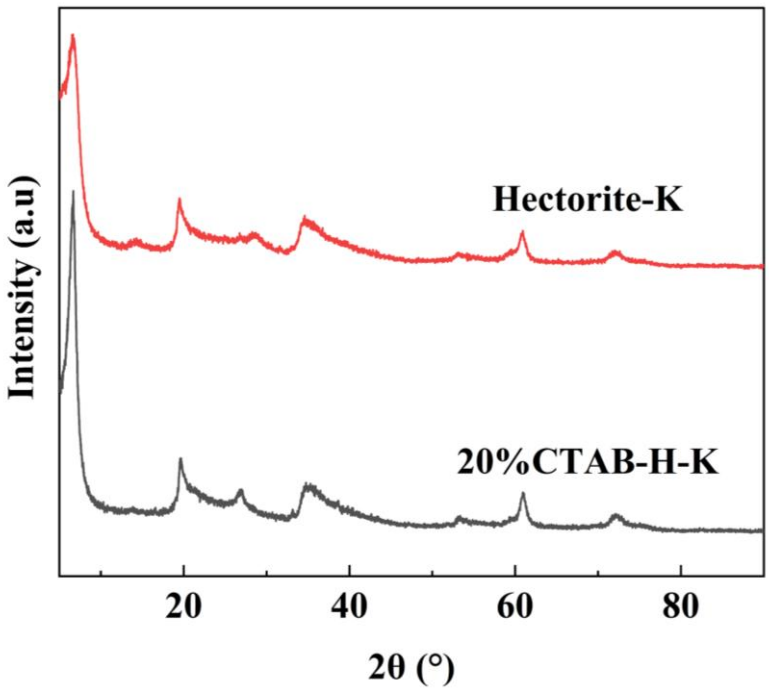


Figure S2. XRD of CTAB-modified geopolymer-based hectorite synthesized from depolymerized kaolin geopolymer.

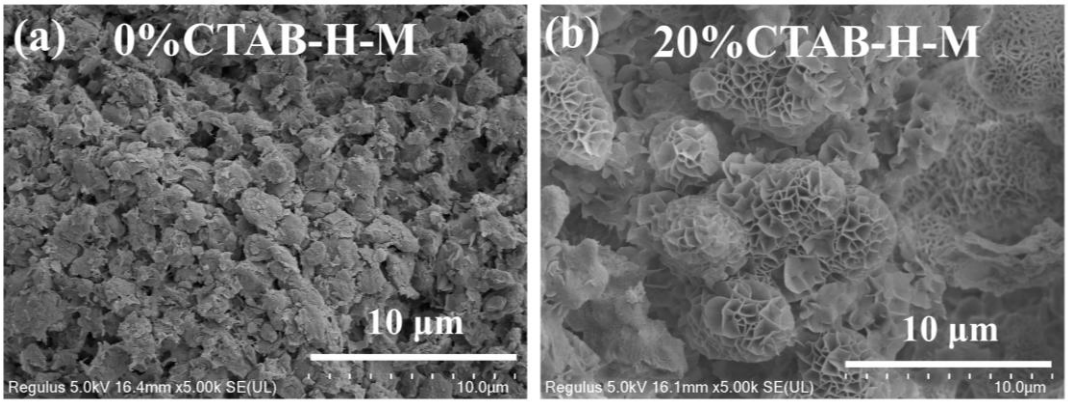


Figure S3. SEM image of 0%CTAB-H-M (**a**) and 20%CTAB-H-M synthesized by depolymerized montmorillonite geopolymer (**b**).

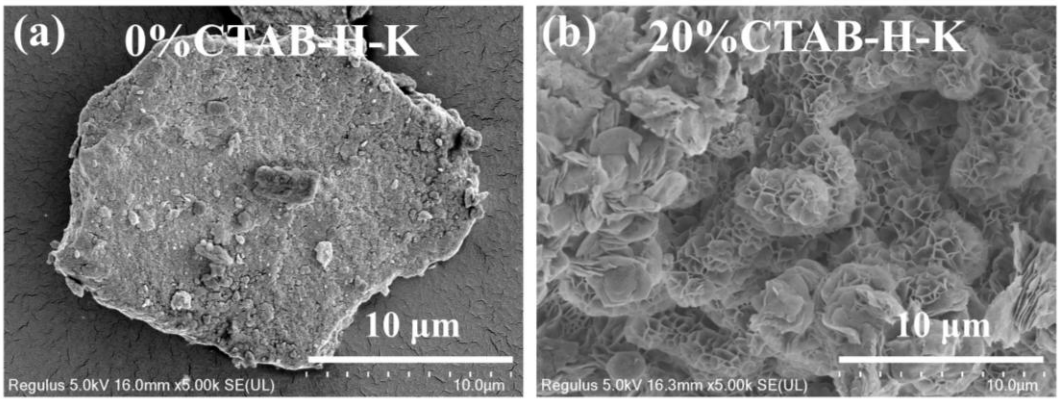


Figure S4. SEM image of 0%CTAB-H-M (**a**) and 20%CTAB-H-M synthesized by depolymerized kaolin geopolymer (**b**).