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The use of halloysite functionalized with isothiuronium salts as an organic/inorganic hybrid adsorbent for uranium(VI) ions removal

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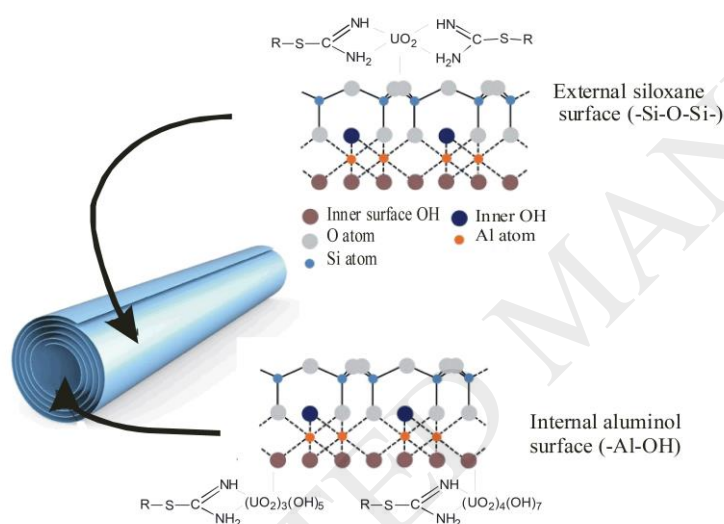
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Graphical abstract



Highlights

- Halloysite sorbents with isothiuronium groups are synthesized for U(VI).
- The maximum sorption capacity of sorbent 157mg U/g.
- The sorption of U(VI) from acidic aqueous solutions with 12-20% efficiency.
- $[R-S-C(=NH)(NH_2)]_{n=1-2}(UO_2^{2+})$ complexes interacting with silanols.
- Oligomeric hydroxy complexes $(UO_2)_3(OH)_5^+$ and $(UO_2)_4(OH)_7^+$ in the sorbent interior.

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