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Research of mercury removal from sintering flue gas of iron and steel by the open metal site of Mil-101(Cr)

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Graphical Abstract

Hg^0 removal in flue gas by the open metal site of Mil-101(Cr)

Highlights:

- Metal-organic frameworks adsorbent Mil-101(Cr) was introduced for Hg^0 removal.
- Mil-101(Cr) has a higher Hg^0 removal efficiency compared with UiO-66 and Cu-BTC.
- The open metal site of Mil-101(Cr) was important for Hg^0 removal.

Abstract: Metal-organic frameworks (MOFs) adsorbent Mil-101(Cr) was introduced for the removal of elemental mercury from sintering flue gas. Physical and chemical characterization of the adsorbents showed that MIL-101(Cr) had the largest BET surface area, high thermal stability