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Novel $\text{V}_2\text{O}_5\text{-CeO}_2\text{-TiO}_2\text{-SO}_4^{2-}$ nanostructured aerogel catalyst for the low temperature selective catalytic reduction of NO by NH_3 in excess O_2

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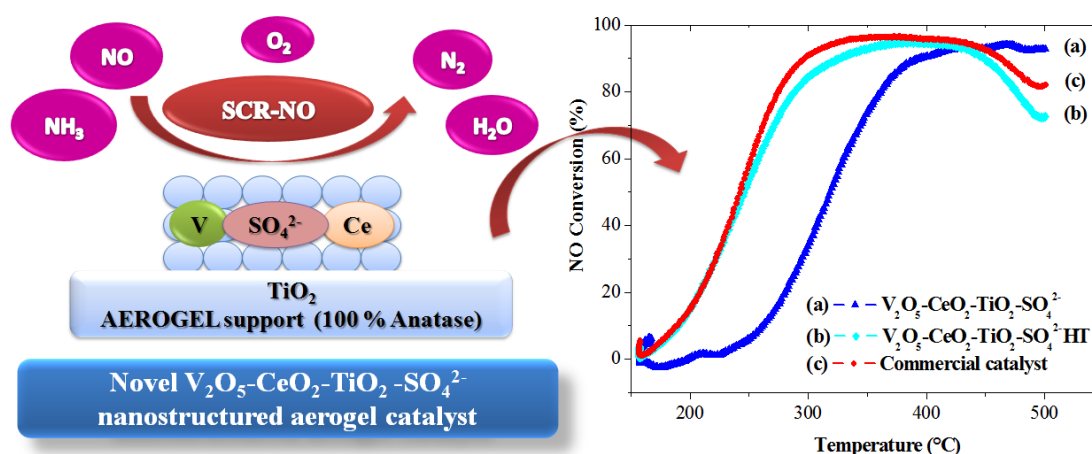
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Dedicated to Professor Dr. Abdelhamid Ghorbel on the occasion of his 71th birthday.

Graphical abstract



Highlights research

- Novel $\text{V}_2\text{O}_5\text{-CeO}_2\text{-TiO}_2\text{-SO}_4^{2-}$ aerogel catalyst was prepared for NO-SCR by NH_3 .
- Cerium redox sites play a key role in the low temperature SCR-NO by NH_3 .
- Acidity of SO_4^{2-} increases NO conversion and N_2 selectivity at high temperature.
- $\text{V}_2\text{O}_5\text{-CeO}_2\text{-TiO}_2\text{-SO}_4^{2-}$ exhibits better SCR activity at 450-500 °C than commercial one.

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