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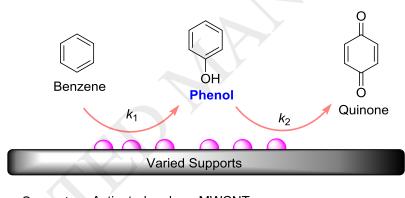
Vanadium-zirconium catalyst on different support for hydroxylation of benzene to phenol with O₂ as the oxidant

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GRAPHCIAL ABSTRACT

TOC



Supports = Activated carbon, MWCNTs, Bentonite, C_3N_4 , γ -Al₂O₃ = ZrV₂O₇

Reaction condition: O_2 , 3.0 MPa; acetonitrile, 3.0 ml; ascorbic acid, 0.7 g; 80 °C; 5 h.

Highlight

- Vanadium-zirconium catalyst with different supports were synthesized.
- The nature of the supports, such surface area, composition, surface functional group, influenced the activity and selectivity
- Kinetic study indicated that the reaction was a consecutive reaction with both step of first order, and the selectivity was kinetically controlled.

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