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Catalyst-assisted chemical looping auto-thermal dry reforming: Spatial structuring effects on process efficiency

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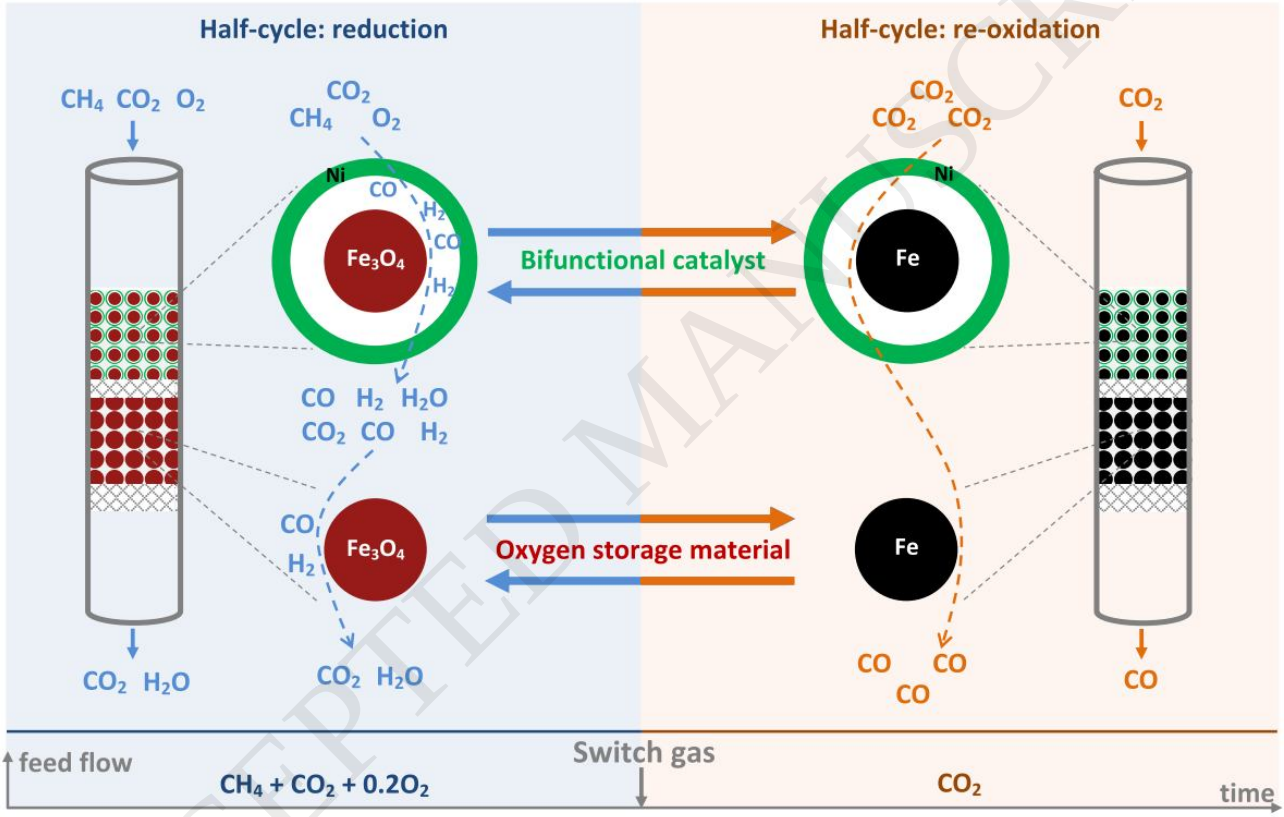
Graphical abstract



Global reaction: $CH_4 + xCO_2 + \frac{(3-x)}{2}O_2 \leftrightarrows (1+x)CO + 2H_2O$

Highlights

- The effect of spatial structuring at both reactor bed and pellet scale on the activity and stability in catalyst-assisted chemical looping auto-thermal dry reforming is studied.
- Core-shell structured catalyst and oxygen storage material were synthesized by a combined impregnation and nanocoating method.

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