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Greener Synthesis of Dimethyl Carbonate using a Novel Ceria-Zirconia Oxide/Graphene Nanocomposite Catalyst

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KEYWORDS

Carbon dioxide utilization, dimethyl carbonate, methanol, ceria-zirconia oxide/graphenenanocomposite, heterogeneous catalyst.

Highlights:

- Highly active ceria-zirconia/graphenenanocomposite was successfully prepared.
- Direct synthesis of DMC was catalysed by novel $Ce_xZr_{1-x}O_2/GO$ nanocomposite.
- This method produced 33% yield of DMC (higher than reported literature values).
- $Ce_xZr_{1-x}O_2/GO$ was reused several times without affecting its catalytic performance.

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