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# Producing renewable petrochemicals from catalytic co-pyrolysis of biomass and plastics using gallium-containing MFI zeolites

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## Highlights

- Ga-MFI zeolites greatly improve petrochemical production in catalytic co-pyrolysis of biomass and LDPE.
- Incorporation of gallium into MFI zeolites enhances alkane conversion to olefins and aromatics.
- Ga-MFI zeolites produce much higher yields of olefins and monoaromatics than ZSM-5 zeolite.
- Ga-MFI zeolites inhibit polyaromatic formation in catalytic pyrolysis of biomass and LDPE.
- Ga-MFI zeolites greatly enhance *p*-xylene production over *m*- and *o*-xylenes.

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