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Effects of torrefaction temperature and acid pretreatment on the yield and quality of fast pyrolysis bio-oil from rice straw

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Highlights

- The pyrolysis char yield decreased when the torrefaction temperature increased.
- The divergent results of pyrolysis char were found at high pyrolysis temperature.
- The phenolic compounds in pyrolysis decreased with increased torrefaction severity.

Abstract

This study investigated the effects of torrefaction temperatures and dilute acid pretreatment on the quality of pyrolysis bio-oil and the distribution toward gaseous, liquid bio-oil, and char products from rice straw. Torrefaction of rice straw was conducted at different temperatures (225°C, 250°C,

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