

Plasma-assisted selective catalytic reduction of NO_x over Ag/ γ -Al₂O₃ with dodecane as reducing agent at low temperature

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Reducing NO_x at low-temperature ranges is challenging in refining diesel exhausted gases. Plasma-assisted selective catalytic reduction (SCR) is an alternative method to reduce thermal reactive catalyst for reducing reaction. Almost hydrocarbon-SCR of NO_x has been performed with a low boiler temperature of hydrocarbon for simulated diesel fuels, suggesting fewer carbons in the molecular and reduced hurdle to the oxygenated formation. Consequently, in this study, hydrocarbon-SCR of NO_x was investigated with dodecane, the primary component in diesel fuel, as a reducing agent in a packed-bed dielectric barrier discharge plasma. The results revealed a potential practical plasma in treating diesel exhaust gas.