

## Photocatalysis of Dodecane to produce NO<sub>x</sub> reductants, H<sub>2</sub> and Oxygenated hydrocarbon(OHC)

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Vehicles equipped with Diesel engines have several good and bad characters.

Good points are improved fuel efficiency, lower fuel cost and heat losses.

Like all mechanic device, it has disadvantages such as lower combustion efficiency, particulate matter emissions and NO<sub>x</sub> emissions.

Among them, NO<sub>x</sub> emission problem is one of the key issues to solve to sustain at the harsh emission regulation.

According to frequently reported articles about reducing NO<sub>x</sub> emission, thousands of ppm H<sub>2</sub> and OHC is necessary for NO<sub>x</sub> reduction. It is expected that this amounts of them can be made by photocatalysis of diesel fuel like Dodecane.

So I suggest the solution of reducing NO<sub>x</sub> emission by adoping photocatalytic system to produce NO<sub>x</sub> reductants such as H<sub>2</sub> and OHC.