

# Production of olefins from syngas over Al<sub>2</sub>O<sub>3</sub> supported Ni and Cu nano-catalysts

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Abstract:

The most important products that can be produced from syngas are methanol, dimethyl ether and light olefins (ethylene and propylene). The light olefins are the most important syngas products, because many of the chemicals are produced from them. The aim of this work was to study the olefins production from syngas over Al<sub>2</sub>O<sub>3</sub>-supported Ni-Cu nano-catalysts. In addition, the effect of various factors such as catalyst on olefin production and CO conversion has been investigated. The concentration of heavier olefins (C<sub>5</sub>) was greater than the remaining olefins, since the rate of reactions must be increased to form C<sub>1</sub> to C<sub>4</sub>. In the case of a Ni/Al<sub>2</sub>O<sub>3</sub> catalyst, C<sub>1</sub> and C<sub>4</sub> was initially increased and then decreased with an increase in Ni loading from 0% to 15%.