

List of Figures To Be Removed Under Copyright From Online Version

Sam Powick, MSc Thesis: New Zealand Ironsands Catalysis of Thermo-catalytic Methane Decomposition

Figure 1: A simplified schematic of the steam reformation process

To find this figure in the cited work below, go to *Fig. 4 – Flow diagram of the steam reforming process*.

Nikolaidis, P., & Poullikkas, A. (2017). A comparative overview of hydrogen production processes. *Renewable and Sustainable Energy Reviews*, 67, 597–611.

<https://doi.org/10.1016/j.rser.2016.09.044>

Figure 2: Effect of oxygen stoichiometry on enthalpy of methane decomposition

To find this figure in the cited work below, go to *Fig. 2. Standard enthalpies of different methane conversion processes vs. O₂/CH₄ ratio*.

Muradov, N., Smith, F., Huang, C., & T-Raissi, A. (2006). Autothermal catalytic pyrolysis of methane as a new route to hydrogen production with reduced CO₂ emissions. *Catalysis Today*, 116(3), 281–288. <https://doi.org/10.1016/j.cattod.2006.05.070>

Figure 3: CO₂ emissions of hydrogen production processes

To find this figure in the cited work below, go to *Figure 16 - Comparison of CO₂ Emissions from Different Hydrogen Production Processes*

Muradov, N. (2000). Thermocatalytic CO₂-Free Production of Hydrogen from Hydrocarbon Fuels. *Proceedings of the 2000 Hydrogen Program Review*, 570–28890.

<https://www1.eere.energy.gov/hydrogenandfuelcells/pdfs/28890t.pdf>

Figure 6: Carbon morphologies produced by TCMD

To find this figure in the cited work below, go to *Fig. 4. Various types of nanocarbon formed in MCD reaction*.

Li, Y., Li, D., & Wang, G. (2011). Methane decomposition to CO_x-free hydrogen and nano-carbon material on group 8–10 base metal catalysts: A review. *Catalysis Today*, 162(1), 1–48.

<https://doi.org/10.1016/j.cattod.2010.12.042>

Figure 7: Summary of carbon morphologies produced, by catalyst and temperature

To find this figure in the cited work below, go to *Fig. 2. Graphical representation of the bulk of literature data on catalysts*.

Muradov, N. Z., & Vezirođlu, T. N. (2005). From hydrocarbon to hydrogen–carbon to hydrogen economy. *International Journal of Hydrogen Energy*, 30(3), 225–237.
<https://doi.org/10.1016/j.ijhydene.2004.03.033>