Synthesis Gas Production from Combined Reforming of Methane over Co-precipitated $Ni-CeO_2$, $Ni-ZrO_2$ and $Ni-Ce_{0.8}Zr_{0.2}O_2$ Catalysts for Gas to Liquid (GTL) process

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To produce synthesis gas for gas to liquid (GTL) process, co-precipitated Ni-CeO2, Ni-ZrO2 and Ni-Ce0.8Zr0.2O2 catalysts have been prepared and applied for combined steam and carbon dioxide reforming of methane (CSCRM). A conventional impregnation method was also employed to prepare Ni/CeO2, Ni/ZrO2 and Ni/Ce0.8Zr0.2O2 catalysts to compare the impregnated catalysts with the co-precipitated ones. It has been confirmed that the co-precipitated Ni-Ce0.8Zr0.2O2 catalyst exhibited the highest activity as well as stability, while the impregnated Ni/Ce0.8Zr0.2O2 catalysts did not show stable activity.