

| Catalysts                                                        | Pore diameter (nm) | X <sub>CO2</sub> (%) | S <sub>CH4</sub> (%) | T (°C) | Stability test, conversion (%)        | References                |
|------------------------------------------------------------------|--------------------|----------------------|----------------------|--------|---------------------------------------|---------------------------|
| 15 wt% Ni/TiO <sub>2</sub>                                       | 5.8                | 80.1                 | 95.0                 | 340    | Decreased by 16.5% after 81 h.        | Liu et al., 2013          |
| 10 wt% Ni/ZrO <sub>2</sub>                                       | 5.4                | 74.2                 | 70.8                 | —      | —                                     | Jia et al., 2019          |
| Ni30/Al <sub>2</sub> O <sub>3</sub>                              | 5.4                | 70.7                 | 95.0                 | —      | —                                     | Gac et al., 2019          |
| 15Ni/CeO <sub>2</sub> 0.6ZrO <sub>2</sub> 0.4                    | 9.1                | 71.0                 | 86.0                 | 300    | Decreased from 83% to 70% after 42 h. | Pastor-Pérez et al., 2018 |
| 25Ni/Ce0.75Zr0.25                                                | —                  | 85.0                 | —                    | 300    | Stable within 30 h.                   | Atzori et al., 2019       |
| 30Ni/Al <sub>2</sub> O <sub>3</sub> .0.5SiO <sub>2</sub>         | 4.8                | 82.0                 | 98.0                 | 350    | Stable within 30 h.                   | Moghaddam et al., 2018    |
| 20Ni/Al <sub>2</sub> O <sub>3</sub> -ZrO <sub>2</sub> -1.0       | 3.3                | 76.0                 | 100.0                | 300    | Stable within 100 h.                  | Lin et al., 2019          |
| 15Ni/OMA                                                         | 8.2                | 87.0                 | 98.0                 | 400    | Stable within 150 h.                  | Aljishi et al., 2018      |
| 5%Ni/MSN                                                         | 3.4                | —                    | 99.9                 | 300    | Stable within 200 h.                  | Aziz et al., 2014a        |
| 12Ni/CNT                                                         | 3.7                | 61.1                 | 96.6                 | 350    | Decreased by 18% after 100 h.         | Wang W. et al., 2016      |
| 5%Ni/fibrous SBA-15                                              | 7.0                | 98.9                 | 99.6                 | 400    | Stable within 120 h.                  | Bukhari et al., 2019      |
| NiO@SiO <sub>2</sub>                                             | 11.6               | 78.0                 | 98.0                 | —      | —                                     | Li et al., 2014           |
| Ni0.8Mg0.2O@SiO <sub>2</sub>                                     | 15.5               | 87.0                 | 99.0                 | 300    | Stable within 100 h.                  | Li et al., 2014           |
| OMA-10Ni8Ca                                                      | 8.4                | 80.0                 | 98.5                 | 400    | Stable within 50 h.                   | Xu et al., 2017a          |
| 15Ni3Co/CeO <sub>2</sub> 0.6ZrO <sub>2</sub> 0.4                 | 5.4                | 83.0                 | 94.0                 | 300    | Decreased by 13% after 42 h.          | Pastor-Pérez et al., 2018 |
| 2Co8Ni/OMA                                                       | 9.5                | 79.0                 | 97.5                 | 400    | Stable within 50 h.                   | Xu et al., 2018           |
| Ni-Mn/ $\gamma$ -Al <sub>2</sub> O <sub>3</sub>                  | 5.1                | 90.0                 | —                    | 270    | Stable within 50 h.                   | Le et al., 2019a          |
| 12Ni3Fe/Al <sub>2</sub> O <sub>3</sub>                           | 5.2                | 84.1                 | 100                  | 420    | Stable within 150 h.                  | Li et al., 2018b          |
| MA-10Ni3La                                                       | 11.1               | 78.0                 | 98.3                 | 400    | Stable within 50 h.                   | Xu et al., 2017c          |
| 12Ni4.5Ce/CNT                                                    | 3.7                | 83.8                 | 99.8                 | 350    | Decreased by 1.3% after 100 h.        | Wang W. et al., 2016      |
| 13Ni-2CeO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub>           | 12.5               | 85.0                 | 99.0                 | 350    | Decreased by 2.0% after 120 h.        | Liu H. et al., 2012       |
| Ni(10 wt%)-Pt(0.5 wt%)/ $\gamma$ -Al <sub>2</sub> O <sub>3</sub> | —                  | 83.4                 | 97                   | 250    | Decreased by 2.5% after 6 h.          | Mihet and Lazar, 2018     |
| Ni(10 wt%)-Pd(0.5 wt%)/ $\gamma$ -Al <sub>2</sub> O <sub>3</sub> | —                  | 90.6                 | 97                   | 250    | Decreased by 3.4% after 6 h.          | Mihet and Lazar, 2018     |