**ANSWERS: Equilibrium constant expression**

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| Year | Equation | Equilibrium constant expression |
| 2020 | 2COF2(*g*) ⇌ CF4(*g*) + CO2(*g*) |  |
| 2018  2015 | 2SO2 *(g)* + O2 *(g)* ⇌ 2SO3 *(g)* |  |
| 2014 | CH4(*g*) + H2O(*g*) ⇌ CO(*g*) + 3H2(*g*) |  |
| 2012 | PCl5(*g*) ⇄ PCl3(*g*) + Cl2(*g*) |  |
| 2011 | CO(*g*) + 2H2(*g*) ⇄ CH3OH(*g*) | *K*c = [CH3OH]  [CO][H2] |
| 2022  2010 | H2(*g*) + I2(*g*) ⇄ 2HI(*g*) | *K*c = [HI]2  [H2][I2] |
| 2009 | 2NO(*g*) + O2(*g*) ⇄ 2NO2(*g*) | *K*c = [NO2]2  [NO]2[O2] |
| 2008 | N2(g) + O2(g) ⇄ 2NO(g) | *K*c = [NO]2  [N2][O2] |
| 2008 | 2O3(g) ⇄ 3O2(g) | *K*c = [O2]3  [O3]2 |
| 2007 | 2NH3(*g*) ⇄ N2(*g*) + 3H2(*g*) | *K*c = [N2] [H2]3  [NH3]2 |
| 2019  2017  2013  2006 | 3H2(*g*) + N2(*g*) ⇄ 2NH3(*g*) |  |

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| Year | Equilibrium expression | Equation |
| 2021 |  | 2NO(*g*) + O2(*g*) ⇌ 2NO2(*g*) |
| 2016 |  | CO + 2H2 ⇌ CH3OH |
| 2015 |  | A + 2B ⇌ 3C + D |
| 2013 |  | 2SO2 + O2 ⇌ 2SO3 |

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