**S3 Table.** Kinetic data of metal complexes using Coats-Redfern and Horowitz and Metzger equation.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| complex | Temp. range C | Mothed | Parameter | | | | | Correlation  coefficient  (r) |
| Ea  (kJmol−1) | A  (s−1) | -ΔS  (J mol-1 K-1) | ΔH  (kJmol−1) | ΔG  (kJ mol−1) |
| [UO2-CMZ(ACO)2]H2O | 140-173 | CR  HM  Average | 2.42×104  7.78×104  5.10×104 | 1.48×104  6.44×104  3.96×104 | 1.70×102  1.58×102  1.64×102 | 1.95×104  7.31×104  4.63×104 | 1.17×105  1.63×105  1.40×105 | 0.9866  0.9990  0.9928 |
| 244-311 | CR  HM  Average | 1.80×104  6.78×104  4.29×104 | 8.11×104  6.88×103  4.40×104 | 1.56×102  1.77×102  1.67×102 | 1.33×104  6.31×104  3.82×104 | 1.02×105  1.64×105  1.33×105 | 0.9615  0.9668  0.96415 |
| [UO2-MP(ACO)2] | 182-240 | CR  HM  Average | 2.82×104  7.16×104  4.99×104 | 4.60×103  2.79×105  1.42×105 | 1.79×102  1.45×102  1.62×102 | 2.41×104  6.76×104  4.58×104 | 1.11×105  1.38×105  1.25×105 | 0.9819  0.9791  0.9805 |
| [UO2(SCZ)(ACO)2] | 176-245 | CR  HM  Average | 2.56×104  6.93×104  4.74×104 | 8.25×103  1.90×103  5.08×103 | 1.74×102  1.48×102  1.61×102 | 2.16×104  6.53×104  4.34×104 | 1.05×105  1.37×105  1.21×105 | 0.9828  0.9805  0.9817 |