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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| complex | Temp. range C | Mothed | Parameter | Correlationcoefficient(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 | CRHMAverage | 2.42×1047.78×1045.10×104 | 1.48×1046.44×1043.96×104 | 1.70×1021.58×1021.64×102 | 1.95×1047.31×1044.63×104 | 1.17×1051.63×1051.40×105 | 0.98660.99900.9928 |
| 244-311 | CRHMAverage | 1.80×1046.78×1044.29×104 | 8.11×1046.88×1034.40×104 | 1.56×1021.77×1021.67×102 | 1.33×1046.31×1043.82×104 | 1.02×1051.64×1051.33×105 | 0.96150.96680.96415 |
| [UO2-MP(ACO)2] | 182-240 | CRHMAverage | 2.82×1047.16×1044.99×104 | 4.60×1032.79×1051.42×105 | 1.79×1021.45×1021.62×102 | 2.41×1046.76×1044.58×104 | 1.11×1051.38×1051.25×105 | 0.98190.97910.9805 |
| [UO2(SCZ)(ACO)2] | 176-245 | CRHMAverage | 2.56×1046.93×1044.74×104 | 8.25×1031.90×1035.08×103 | 1.74×1021.48×1021.61×102 | 2.16×1046.53×1044.34×104 | 1.05×1051.37×1051.21×105 | 0.98280.98050.9817 |