|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TU Conc**  (M) | **R1**  (Ohm cm2) | **Y2**  F cm-2 s(a-1) | **α2** | **R2**  (Ohm cm2) | **Y3**  F cm-2 s(a-1) | **α3** | **R3**  (Ohm cm2) | **χ2** |
| 0 | 1.95 | 0.014 | 0.83 | 6.07 | 1.15 | 0.53 | 83.04 | 2.92 |
| 0.01 | 1.22 | 0.21 | 0.61 | 0.69 | 1.11 | 0.39 | 7.85 | 0.10 |
| 0.1 | 1.89 | 0.009 | 1 | 0.21 | 2.16 | 0.56 | 4.63 | 0.15 |
| 1 | 2.58 | 0.022 | 0.70 | 0.41 | 2.51 | 0.59 | 6.25 | 0.40 |

Table S1: Impedance parameters obtained for copper electrode in tin acid solutions without and with TU using 2CPE equivalent circuit model.