

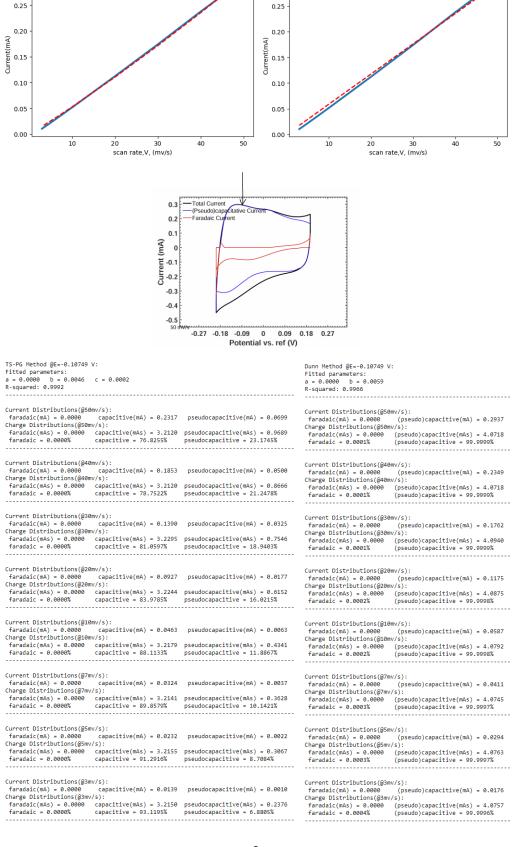
Working Electrode: Carbon Paper

Counter Electrode: Glassy Carbon

Reference Electrode: Ag|AgCl|KCl 3M

Electrolyte: 0.5M H₂SO₄

Capacitive Current

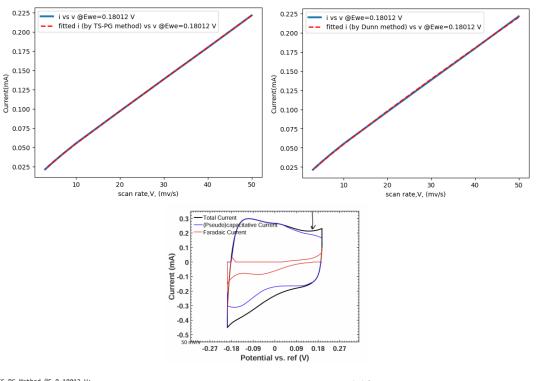


0.30

i vs v @Ewe=-0.10749 V fitted i (by Dunn method) vs v @Ewe=-0.10749 V

i vs v @Ewe=-0.10749 V

fitted i (by TS-PG method) vs v @Ewe=-0.10749 V



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TS-PG Method @E=0.18012 V:
                                                                                                                   Dunn Method @E=0.18012 V:
Fitted parameters:

a = 0.0074 b = 0.0029 c = 0.0001

R-squared: 1.0000
                                                                                                                   Fitted parameters:
a = 0.0060 b = 0.0036
                                                                                                                   R-squared: 0.9999
Current Distributions(@50mv/s):
                                                                                                                   Current Distributions(@50mv/s):
faradaic(mA) = 0.0422 (pseudo)capacitive(mA) = 0.1781
Charge Distributions(@50mv/s):
                                                                                                                    faradaic(mAs) = 0.1525 (pseudo)capacitive(mAs) = 0.6438
                                                                                                                    faradaic = 19.1513%
                                                                                                                                                     (pseudo)capacitive = 80.8487%
Current Distributions(@40mv/s):
                                                                                                                  faradaic(mA) = 0.377 (pseudo)capacitive(mA) = 0.1425
Charge Distributions(@40mv/s):
  faradaic = 20.9384% (pseudo)capacitive(mAs) = 0.6437
faradaic = 20.9384% (pseudo)capacitive = 79.0616%
                                                                                                                  Current Distributions(@30mv/s): faradaic(mA) = 0.0327 (pseudo)capacitive(mA) = 0.1069 Charge Distributions(@30mv/s):
Current Distributions(@30mv/s):
Current Distributions(@30mv/s):
faradaic(mA) = 0.4047 capacitive(mA) = 0.0864 pseudocapacitive(mA) = 0.0115
Charge Distributions(@30mv/s):
faradaic(mAs) = 0.2451 capacitive(mAs) = 0.5205 pseudocapacitive(mAs) = 0.0693
faradaic = 29.3578% capacitive = 62.3398% pseudocapacitive = 8.3024%
                                                                                                                    faradaic(mAs) = 0.1969 (pseudo)capacitive(mAs) = 0.6438
                                                                                                                    faradaic = 23.4190% (pseudo)capacitive = 76.5810%
Current Distributions(@20mv/s):
                                                                                                                   Current Distributions(@20mv/s):
                                                                                                                  faradaic(mA) = 0.0267 (pseudo)capacitive(mA) = 0.0712

Charge Distributions(@20mv/s):

faradaic(mAs) = 0.2411 (pseudo)capacitive(mAs) = 0.6438

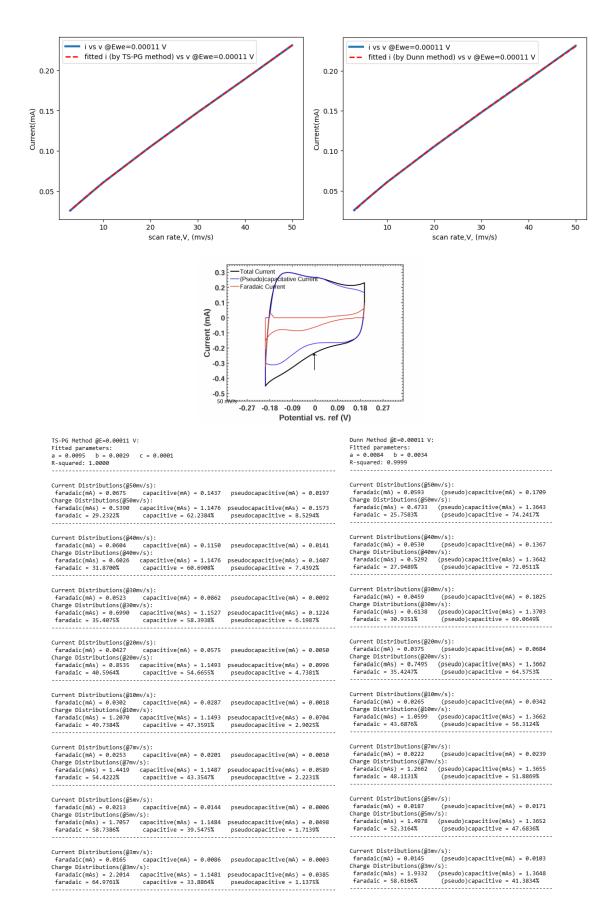
faradaic = 27.2482% (pseudo)capacitive = 72.7518%
Current Distributions(@10mv/s):
Current Distributions(@10mv/s):
faradaic(mA) = 0.0235 capacitive(mA) = 0.0288 pseudocapacitive(mA) = 0.0022
Charge Distributions(@10mv/s):
                                                                                                                                                   (pseudo)capacitive(mA) = 0.0356
                                                                                                                    faradaic(mA) = 0.0189
                                                                                                                  faradaic(mA) = 0.0189 (pseudo)capacitive(mA) = 0.0350 (harge Distributions(@10mv/s): faradaic(mAs) = 0.3410 (pseudo)capacitive(mAs) = 0.6437 faradaic = 34.6266% (pseudo)capacitive = 65.3734%
  Taradaic(mAs) = 0.4245 capacitive(mAs) = 0.5205 pseudocapacitive(mAs) = 0.0400 faradaic = 43.090% capacitiva = 50 จากจ
                        capacitive = 52.8382% pseudocapacitive = 4.0628%
  faradaic = 43.0990%
                                                                                                                   Current Distributions(@7mv/s):
Current Distributions(@7mv/s):
                                                                                                                   current Distributions(@/mw/s):
faradaic(mA) = 0.0158   (pseudo)capacitive(mA) = 0.0249
Charge Distributions(@/mw/s):
faradaic(mA) = 0.0197 capacitive(mA) = 0.0202 pseudocapacitive(mA) = 0.0013
Charge Distributions(@7mv/s):
                                                                                                                    faradaic(mAs) = 0.4075 (pseudo)capacitive(mAs) = 0.6437
faradaic = 38.7661% (pseudo)capacitive = 61.2339%
 .narge Uistributions(g/mw/s):
faradaic(mAs) = 0.5074 capacitive(mAs) = 0.5205 pseudocapacitive(mAs) = 0.0335
faradaic = 47.8078% capacitive = 49.0376% pseudocapacitive = 3.1547%
                                                                                                                   Current Distributions(@5mv/s):
Current Distributions(@5mv/s):
                                                                                                                   Charge Distributions(@5mv/s):

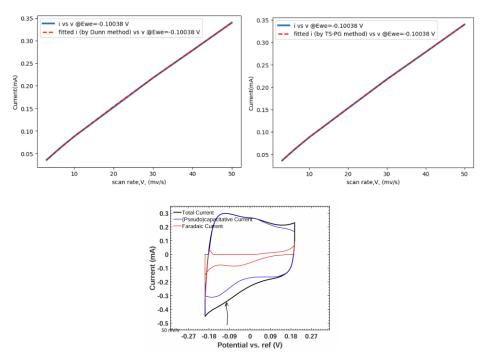
faradaic(mA) = 0.0133 (pseudo)capacitive(mA) = 0.0178

Charge Distributions(@5mv/s):

faradaic(mAs) = 0.4822 (pseudo)capacitive(mAs) = 0.6437

faradaic(mAs) = 0.4822 (pseudo)capacitive(mAs) = 0.73378
faradaic(mA) = 0.0166 capacitive(mA) = 0.0144 pseudocapacitive(mA) = 0.0008 Charge Distributions(@Smv/S): faradaic(mAs) = 0.6004 capacitive(mAs) = 0.5205 pseudocapacitive(mAs) = 0.0283 faradaic = 52.2458% capacitive = 45.2917% pseudocapacitive = 2.4625%
                                                                                                                    faradaic = 42.8268%
                                                                                                                                                     (pseudo)capacitive = 57.1732%
       daic = 52.2458% capacitive = 45.2917% pseudocapacitive = 2.4625%
                                                                                                                   Current Distributions(@3mv/s):
Current Distributions(@3mv/s):
                                                                                                                                                     (pseudo)capacitive(mA) = 0.0107
                                                                                                                    faradaic(mA) = 0.0103
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TS-PG Method @E=0.10038 V: Dunn Method @E=0.10038 V: Fitted parameters: a = 0.0029 b = 0.0036 c = 0.0001 Fitted parameters: a = 0.0017 b = 0.0042 R-squared: 0.9999 R-squared: 0.9999 Current Distributions(@50mv/s): Current Distributions(@50mv/s): faradaic(mA) = 0.0204 capacitive(mA) = 0.1815 pseudocapacitive(mA) = 0.0197 Charge Distributions(@50mv/s): faradaic(mA) = 0.0122 (pseudo)capacitive(mA) = 0.2087 Charge Distributions(@50mv/s): faradaic(mAs) = 0.0411 capacitive(mAs) = 0.3658 pseudocapacitive(mAs) = 0.0398 faradaic = 9.2023% capacitive = 81.8941% pseudocapacitive = 8.9037% faradaic(mAs) = 0.0245 (pseudo)capacitive(mAs) = 0.4206 faradaic = 5.5038% (pseudo)capacitive = 94.4962% raraduati(mAs) = 0.0411 capacitive(mAs) = 0.3058 pseudocapacitive(mAs) = 0.8398 faradaic = 9.2023% capacitive = 81.8941% pseudocapacitive = 8.9037% Current Distributions(@40mv/s): Current Distributions(@40mv/s): faradaic(mA) = 0.0182 capacitive(mA) = 0.1452 pseudocapacitive(mA) = 0.0141 faradaic(mA) = 0.0109 (pseudo)capacitive(mA) = 0.1670 Charge Distributions(@40mv/s): Charge Distributions(@40mv/s): faradaic = 10.2734% capacitive (mAs) = 0.3658 pseudocapacitive (mAs) = 0.0356 faradaic = 10.2734% capacitive = 81.7745% pseudocapacitive = 7.9521% faradaic(mAs) = 0.0274 (pseudo)capacitive(mAs) = 0.4206 faradaic = 6.1137% (pseudo)capacitive = 93.8863% Current Distributions(@30mv/s): Current Distributions(@30mv/s): faradaic(mA) = 0.0158capacitive(mA) = 0.1089 pseudocapacitive(mA) = 0.0092 faradaic(mA) = 0.0094(pseudo)capacitive(mA) = 0.1252 Capacitive(mA) = 0.1089 pseudocapacitive(mA)

Charge Distributions(@30mv/s):

faradaic(mAs) = 0.0531 capacitive(mAs) = 0.3658 pseudocapacitive(mAs)

faradaic = 11.8009% capacitive = 81.3483% pseudocapacitive = 6 Charge Distributions(@30mv/s): faradaic(mAs) = 0.0316 (pseudo)capacitive(mAs) = 0.4206 483% pseudocapacitive = 6.8508% faradaic = 6.9934% (pseudo)capacitive = 93.0066% Current Distributions(@20mv/s): Current Distributions(@20mv/s): faradaic(mA) = 0.0129 capacitive(mA) = 0.0726 pseudocapacitive(mA) = 0.0050 Charge Distributions(@20mv/s): faradaic(mA) = 0.0077 (pseudo)capacitive(mA) = 0.0835 Charge Distributions(@20mv/s): faradaic(mAs) = 0.0387 (pseudo)capacitive(mAs) = 0.4206 faradaic = 8.4325% (pseudo)capacitive = 91.5675% Current Distributions(@10mv/s): Current Distributions(@10mv/s): capacitive(mA) = 0.0363 pseudocapacitive(mA) = 0.0018 faradaic(mA) = 0.0091 Charge Distributions(@10mv/s): faradaic(mAs) = 0.0919 capacitive(mAs) = 0.3658 pseudocapacitive(mAs) = 0.0178 faradaic(mAs) = 0.0548 (pseudo)capacitive(mAs) = 0.4206 faradaic = 19.3296% capacitive = 76.9299% pseudocapacitive = 3.7405% faradaic = 11.5229% (pseudo)capacitive = 88.4771% Current Distributions(@7mv/s): Current Distributions(@7mv/s): capacitive(mA) = 0.0254 pseudocapacitive(mA) = 0.0010 faradaic(mA) = 0.0076faradaic(mA) = 0.0045(pseudo)capacitive(mA) = 0.0292 Charge Distributions(@7mv/s): Charge Distributions(@7mv/s): faradaic(mAs) = 0.1099 capacitive(mAs) = 0.3658 pseudocapacitive(mAs) faradaic(mAs) = 0.0655 (pseudo)capacitive(mAs) = 0.4206 (pseudo)capacitive = 86.5305% faradaic = 22.3950% capacitive = 74.5715% pseudocapacitive = 3.0336% faradaic = 13.4695% raradaic(mA) = 0.0038 (pseudo)capacitive(mA) = 0.0209 Charge Distributions(@5mv/s): faradaic(mAc) 0.000 Current Distributions(@5mv/s): faradaic(mA) = 0.0065 capacitive(mA) = 0.0182 pseudocapacitive(mA) = 0.0006 Charge Distributions(@5mv/s): adaic(mAs) = 0.1300 capacitive(mAs) = 0.3658 pseudocapacitive(mAs) = 0.0126 faradaic(mAs) = 0.8775 (pseudo)capacitive(mAs) = 0.4206 faradaic = 15.5535% (pseudo)capacitive = 84.4465% faradaic = 25.5691% capacitive = 71.9570% pseudocapacitive = 2.4739% Current Distributions(@3mv/s): faradaic(mA) = 0.0050 capacitive(mA) = 0.0109 pseudocapacitive(mA) = 0.0003 Charge Distributions(@3mv/s): Current Distributions(@3mv/s): (pseudo)capacitive(mA) = 0.0125 faradaic(mA) = 0.0030 (ps Charge Distributions(@3mv/s): faradaic(mAs) = 0.1678 capacitive(mAs) = 0.3658 pseudocapacitive(mAs) = 0.0097 faradaic = 30.8838% capacitive = 67.3232% pseudocapacitive = 1.7929% faradaic = 19.2101% (pseudo)capacitive (mAs) = 0.4206 faradaic = 19.2101% (pseudo)capacitive = 80.7899% (pseudo)capacitive = 80.7899%

