Electrocatalytic CO2 reduction toward liquid fuels : on heterogeneous electrocatalysts and heterogenized molecular catalysts

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Voor mijn ouders en tweelingzus

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Contents

List of Abbreviations

BDD	-	Boron Doped Diamond
CE	-	Counter Electrode
CHE	-	Computational Hydrogen Electrode
CN	-	Coordination number
CO_2RR	-	Electrochemical Carbon Dioxide reduction reaction
CoPP	-	Cobalt protoporphyrin IX
CPET	-	Concerted proton-electron transfer
CrPP	-	Chromium protoporphyrin IX
CuPP	-	Copper protoporphyrin IX
CV	-	Cyclic Voltammetry / Cyclic Voltammogram
DDAB	-	Didodecyldimethylammonium bromide
DFT	-	Density Functional Theory
ET	-	Electron transfer
FE	-	Faradaic Efficiency
FePP	-	Iron protoporphyrin IX
GaPP	-	Gallium protoporphyrin IX
GC	-	Glassy Carbon
GHG	-	Greenhouse gas
HER	-	Hydrogen evolution reaction
HPLC	-	High Performance Liquid Chromatography
InPP	-	Indium protoporphyrin IX
j	-	Current density
j_x	-	Partial current density for x
MnPP	-	Manganese protoporphyrin IX
MPP	-	Metalloprotoporphyrin

NHE	-	Normal Hydrogen Electrode
NiPP	-	Nickel protoporphyrin IX
OD	-	Oxide-derived
OHP	-	Outer Helmholtz plane
OLEMS	-	Online Electrochemical Mass Spectrometry
P4VP	-	Poly(4-vinylpyridine)
PCET	-	Proton coupled electron transfer
PdPP	-	Palladium protoporphyrin IX
PEDOT:PSS	-	Poly(3,4-ethylenedioxythiophene) polystyrene sulfonate
PG	-	Pyrolytic Graphite
PP	-	Protoporphyrin
PT	-	Proton transfer
RE	-	Reference Electrode
RHE	-	Reversible Hydrogen Electrode
RhPP	-	Rhodium protoporphyrin IX
SnPP	-	Tin protoporphyrin IX
WE	-	Working Electrode
XPS	-	X-ray photoelectron spectroscopy
XRD	-	X-ray diffractometry