Synthesis of material libraries using gas diffusion electrodes

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Electronic Supplementary Information (ESI)

Table ESI-1. Collection of state of the art materials of Co and Mn with similar structures for comparison of the electrocatalytic performance for the oxygen evolution reaction. Within each structural group the performance of the samples synthesized in this work exhibit promising performance.

Structure	Catalyst	Electrolyte	Substrate	Mass loading (mg cm^{-2})	Overpotential @10 (mV)	Tafel slope (mV dec^{-1})	Ref
BIR	**$Na_xCo_{0.25}Mn_{0.75}O_2$**	**1 M KOH**	**GCE**	**0.15**	**375**	**53**	**This work**
BIR	Birnessite	1 M KOH	GCE	5	770	243	1
BIR	Co^{2+} intercalated birnessite	1 M KOH	GCE	0.1-0.22	360-392	46-66	1
BIR	Co-substitued birnessite	1 M KOH	GCE	3.33	490	82	1
BIR	α-MnO_2	1 M KOH	GCE	0.25	516	86	4
BIR	MnO_x layer	1 M KOH	FTO	0.81	393	84	6
CSPIN	**$Mn_{1.5}Co_{1.5}O_4$**	**1 M KOH**	**GCE**	**0.15**	**375**	**43**	**This work**
CSPIN	Co3O4	1 M KOH	GCE	2.22	500	76	1
CSPIN	$MnCo_2O_4$	1 M KOH	GCE	0.142	418	84	2
TSPIN	**Mn_3O_4**	**1 M KOH**	**GCE**	**0.15**	**410**	**46**	**This work**
Amorphous	Cs-MnO_x	1 M KOH	GCE	0.2	420	69	7
LDH		**1 M KOH**	**GCE**	**0.15**	**355**	**47**	**This work**
LDH	CoMn	1 M KOH	GCE	0.142	324	43	2
LDH	CoCo - bulk	1 M KOH	GCE	0.07	393	59	3
LDH	CoCo - NS	1 M KOH	GCE	0.07	353	45	3
LDH	α-$Co(OH)_2$	1 M KOH	GCE	0.065	380	72	5
LDH	SL-β- $Co(OH)_2$	1 M KOH	GCE	0.065	350	57	5

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