

oCVD Poly(3,4-ethylenedioxythiophene) Conductivity and Lifetime Enhancement via Acid Rinse Dopant Exchange – Supporting Information

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Set #	Sheet Resistance (Ω)					Thickness (nm)					Conductivity (S/cm)				
	NR	MeOH	HCl	HBr	H ₂ SO ₄	NR	MeOH	HCl	HBr	H ₂ SO ₄	NR	MeOH	HCl	HBr	H ₂ SO ₄
1	1260	1450	1150	814	923	15	9	10	9	8	529	750	911	1331	1282
2	11370	14400	15780	8500	10500	6	4	3	4	3	147	194	190	326	277
3	10690	32100	14100	10880	14020	5	3	3	3	3	187	101	220	280	258
4	991	1930	1300	777	563	18	10	11	11	12	561	496	679	1162	1511
5	929	1000	1100	443	441	25	14	16	14	16	431	730	585	1620	1425
6	883	883	693	336	383	33	22	20	21	21	343	523	710	1389	1245
7	186	211	134	85	99	124	78	69	81	79	434	609	1079	1456	1281
8	307	355	267	103	134	106	69	66	65	62	307	411	564	1484	1198
9	472	453	305	170	200	104	63	63	66	65	204	348	523	888	775
10	200	224	142	87	93	130	78	81	84	82	385	572	874	1367	1309
11	128	140	88	43	49	235	149	133	155	144	332	478	854	1502	1421
12	200	169	135	67	74	213	129	139	129	133	235	459	533	1155	1014
13	253	306	174	145	144	102	61	59	57	57	388	534	981	1204	1224
14	914	1100	899	597	603	38	21	24	21	22	288	433	464	816	746
15	570	556	490	203	227	57	37	37	36	36	308	483	549	1365	1228
16	800	888	722	552	608	39	25	25	24	24	321	455	546	740	676
17	8761	9020	7325	4488	5000	8	5	5	5	5	143	241	267	439	415
18	13030	13239	11562	7634	8059	7	4	4	4	4	110	173	206	299	292
19	12489	11100	8333	5884	6128	10	6	5	6	6	83	144	227	285	277
20	136	144	107	53	65	197	119	128	119	122	373	584	730	1590	1258

The reduction in thickness after rinsing the films is primarily due to the removal of residual oxidant, which leads to a significant reduction of the film roughness, as seen in Table 1.