

# Supplementary Material

## The Influence of Preparation Conditions on the Structural Properties and Hardness of Diamond-like Carbon Films, Prepared by Plasma Source Ion Implantation

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**Table 1.** Preparation conditions and properties of the prepared DLC films.

Voltage Type	Voltage (kV)	Holder Type	Pressure (Pa)	Argon Flow (sccm)	G peak Position (cm <sup>-1</sup> )	I(D)/I(G)	FWHM G Peak (cm <sup>-1</sup> )	Hydrogen Content (at.%)	Hardness (GPa)	Friction Coefficient
DC	1.5	Grid	0.65	0	1509.5	0.45	201.9	34.6	20.7	0.083
DC	1.5	Grid	0.7	0	1510.1	0.48	202.2	33.9	19.1	0.082
DC	1.5	Grid	0.8	0	1511.0	0.47	200.7	34.2	14.3	0.063
DC	1.5	Grid	0.8	0.6	1514.0	0.52	196.8	35.1	19.2	0.072
DC	1.5	Plate	0.7	0	1507.7	0.38	206.8	33.9	15.7	0.055
DC	1.5	Plate	0.8	0	1507.1	0.44	203.1	34.8	22.4	0.075
DC	2	Grid	0.65	0	1515.8	0.57	196.1	32.5	20.3	0.064
DC	2	Grid	0.7	0	1515.0	0.58	196.9	31.5	18.2	0.085
DC	2	Grid	0.8	0	1526.9	0.72	183.4	35.6	18.3	0.059
DC	2	Grid	0.8	0.3	1519.5	0.67	190.9	33.1	18.5	0.068
DC	2	Grid	0.8	0.6	1519.3	0.63	191.2	33.6	16.7	0.069
DC	2	Plate	0.65	0	1515.8	0.56	195.0	34.3	18.5	0.055
DC	2	Plate	0.7	0	1511.0	0.49	199.3	33.5	19.8	0.081
DC	2	Plate	0.8	0	1513.1	0.50	198.3	33.1	14.9	0.062
DC	2	Plate	0.8	0.3	1513.9	0.54	196.0	34.4	18.5	0.066
DC	2	Plate	0.8	0.6	1514.1	0.47	198.2	33.9	15.7	0.072
DC	2.5	Grid	0.65	0	1531.8	0.95	177.2	33.4	17.4	0.065
DC	2.5	Grid	0.7	0	1528.0	0.88	184.5	30.7	17.9	0.089
DC	2.5	Grid	0.8	0	1530.5	0.91	180.2	32.8	16.9	0.049
DC	2.5	Grid	0.8	0.6	1539.8	1.25	166.9	32.5	17.3	0.090
DC	2.5	Plate	0.65	0	1517.3	0.63	190.9	33.0	18	0.078
DC	2.5	Plate	0.7	0	1521.3	0.67	186.3	33.8	17.4	0.055
DC	2.5	Plate	0.8	0	1527.6	0.84	180.9	34.1	20	0.088
Pulse	10	Grid	0.65	0	1537.7	1.27	168.7	31.5	10.3	0.103
Pulse	10	Grid	0.7	0	1547.5	1.58	156.0	31.6	10.8	0.081
Pulse	10	Grid	0.8	0	1542.4	1.48	164.9	29.9	10.5	0.056
Pulse	10	Grid	0.8	0.6	1538.3	1.29	169.9	31.3	9.3	0.059
Pulse	10	Plate	0.7	0	1518.9	0.71	187.0	32.7	8.4	0.060
Pulse	10	Plate	0.8	0	1528.4	1.10	175.8	33.2	14.3	0.089
Pulse	15	Grid	0.65	0	1570.8	2.60	129.7	31.1	10.2	0.080
Pulse	15	Grid	0.7	0	1556.3	2.03	151.0	25.0	10.8	0.089
Pulse	15	Grid	0.8	0	1557.1	2.15	151.5	22.7	10.6	0.124
Pulse	15	Grid	0.8	0.3	1556.9	2.22	150.4	25.1	9.8	0.087
Pulse	15	Grid	0.8	0.6	1568.5	2.47	134.5	28.9	9.6	0.087
Pulse	15	Plate	0.65	0	1541.7	1.42	163.5	31.6	11.2	0.100
Pulse	15	Plate	0.7	0	1541.0	1.34	166.5	29.2	10.8	0.074
Pulse	15	Plate	0.8	0	1542.9	1.41	163.7	31.2	10.1	0.067
Pulse	15	Plate	0.8	0.6	1543.4	1.51	161.7	29.7	10.1	0.089
Pulse	18	Grid	0.65	0	1558.6	2.25	150.6	26.5	7.2	0.115
Pulse	18	Grid	0.7	0	1560.3	2.25	153.5	26.8	8.3	0.154
Pulse	18	Grid	0.8	0	1561.0	2.34	151.5	23.3	9.7	0.108
Pulse	18	Grid	0.8	0.6	1562.8	2.43	149.9	24.9	6.8	0.098
Pulse	18	Plate	0.65	0	1546.5	1.66	158.2	29.0	10.8	0.078
Pulse	18	Plate	0.7	0	1546.6	1.68	160.2	27.5	10.5	0.073
Pulse	18	Plate	0.8	0	1547.4	1.65	160.7	27.2	9.4	0.072