Issues related to CVD

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1. Boundary delamination

Nominal softening is generated by delamination of graphene's adhesive border, which is a function of the substrate's adhesive strength. Each loading-unloading-reloading cycle improves the contact between the tip and the graphene, resulting in enhanced tip-graphene adhesion and the removal of the vertically connected segment. In other words, under a clamped boundary condition, free-standing (FS) graphene with an adhesive boundary condition transforms into a slack membrane. As a consequence, the influence of border delamination on softening reduces with time. [11] A little fragment of a Free-standing (FS) 2D material is often seen sticking to the substrate sidewall at its edge during Free standing Indentation (FSI) experiments. This is often linked to contact between the Van Der Waals (vdW) and the substrate sidewall. This related component to the substrate sidewall may delaminate during FSI testing, according to both experimental and computational analyses; however, the impact of border delamination has never been explored. [11] Additionally, it was revealed that a little amount of indentation stress results in the delamination of the sticky graphene bonds. On the other hand, the effect of border delamination on indentation response was previously overlooked. [11]

2. Wrinkle effect

The Finite Element Method is utilised to properly simulate the FS graphene, resulting in immaculate adhesion between the graphene and the substrate sidewall, ensuring that the graphene-substrate adhesive strength stays constant throughout the contact zone. On the other side, Atomic Force Microscopy (AFM) photos of FS CVD graphene clearly show the creases. To characterise wrinkled graphene, the sinusoidal function Y 14 Y0 sin ux, where Y0 and u denote the wrinkle's amplitude and angle frequen was used, respectively. To imitate the wrinkling impact on the tip-graphene Van Der Waals (vdW) interaction, a smooth membrane with a lower LJ value might be utilised. The normalised LJ parameter B/B0 and the normalised contact radius r/r0, where B0 and r0 signify the original FS CVD graphene's LJ parameter and contact radius, respectively. [2] After entirely delaminating the adhering piece of graphene, the FS segment is extended, resulting in a fast rise in P with dt in Stage III; also, the P-dt link becomes smooth, disguising the wrinkle impact on the indentation response. [2]

35	Single Crystals	10
36	Graphene Nucleation Density	10
37	Growth Single-Layer Graphene	10
38	Effect Boundary Delamination	20
39	Vertically Aligned Carbon	9
40	Graphene Grown Chemical Vapor Deposition	9
41	Single Layer Graphene	9
42	Cvd Synthesis Graphene	8
43	Graphene Fsi Testing	20
44	Graphene Sic Substrate	16
45	Carbon Nanotubes Graphene	8
46	Carbon Nanotubes Grown	8
47	Graphene Films Chemical	8
48	Quantifying Defects Graphene	8
49	Bubbling Transfer Graphene	8
50	Growth Bilayer Graphene	8
51	Stiffening Cvd Graphene	8
52	Graphene Vdw Interaction	8
53	Graphene Hybrid Materials	8
54	Surface Morphology Graphene	8
55	Surface Coverage Graphene	8
56	Graphene Insulating Substrates	8
57	Graphene Consecutive Reloading	8
58	Growth Rate Graphene	16
59	Atmospheric Pressure Chemical	7
60	Graphene Carbon Nanotube	7
61	Graphene Grown Graphite	7
62	Measurement Elastic Properties	7
63	Measurement Elastic Properties Intrinsic Strength	7
64	Properties Intrinsic Strength	7
65	Min Carbon Concentration	7
66	Adhesive Boundary Condition	7
67	Coatings Technology	7
68	Single Lorentzian	7
69	Single-Crystal Graphene	7
70	Carbon Nanotube Hybrids	6
71	Hot Filament Chemical	6
72	Kinetic Factors Chemical Vapor Deposition	6
73	Kinetic Factors Chemical	6
74	Defects Graphene Raman	6
75	High-Quality Uniform Graphene	6
76	High-Quality Uniform Graphene Films Copper	6
77	Graphene Film Cu	6
78	Graphene Grown Cu	6

CHEMICAL

No	Name	Count
1	Chemical Vapor Deposition	421
2	Graphene Grown Chemical	32
3	CHEMICAL VAPOR DEPOSITION (CVD)	30
4	Graphene Chemical Vapor	17
5	Pressure Chemical Vapor	17
6	Chemical Vapour Deposition	17
7	Chemical Energy Storage	14
8	Grown Chemical Vapor	14
9	Graphene Growth Chemical	14
10	Chemical Vapour Deposition	13
11	Graphene Copper Chemical	12
12	Graphene Grown Chemical Vapor Deposition	9
13	Graphene Films Chemical	8
14	Atmospheric Pressure Chemical	7
15	Hot Filament Chemical	6
16	Kinetic Factors Chemical Vapor Deposition	6
17	Kinetic Factors Chemical	6
18	Substrates Chemical Vapor	6
19	Graphene Foam Chemical	6
20	Graphene Synthesized Chemical	6
21	Role Hydrogen Chemical	5
22	Role Hydrogen Chemical Vapor Deposition	5
23	Hot Filament Chemical Vapor Deposition	5
24	Microwave Plasma Chemical Vapor Deposition	5
25	Microwave Plasma Chemical	5
26	Chemical Carbon Atoms	5
27	Grown Chemical Vapour	5
28	Chemical Vapor Deposition Growth Single-Crystal	5
29	Injection Chemical Vapor	5
30	Chemical Vapor Deposition Synthesis Uniform	5
31	CHEMICAL VAPOUR DEPOSITION (CVD)	5
32	Chemical Vapor Deposited	4
33	Chemical Impedance Spectroscopy	4
34	Atmospheric Pressure Chemical Vapor Deposition	4
35	Frequency Plasma Chemical	4
36	Growth Chemical Vapor	4
37	Carbon Dioxide-Assisted Chemical	4
38	Graphene Sapphire Chemical	4
39	Fabrication Electrochemical Characterization	4
40	Chemical Vapor Deposition-Grown	3
41	Bilayer Graphene Chemical	3

86	Role Hydrogen Graphene Chemical Vapor	2
87	Graphene Hybrids Electrochemical	2
88	Transfer Area Graphene Grown Chemical	2
89	Transport Graphene Grown Chemical Vapor	2
90	Kinetic Graphene Growth Chemical Vapor	2
91	Mechanisms Graphene Growth Chemical Vapour	2
92	Electronic Transport Properties Individual Chemically	2
93	Properties Individual Chemically	2
94	Temperature Chemical Vapor	2
95	Chemical Vapor Deposition Growth Copper	2
96	Chemical Vapor Deposition Synthesis Graphene	2
97	ELECTROCHEMICAL IMPEDANCE SPECTROSCOPY (EIS)	2
98	ELECTROCHEMICAL IMPEDANCE SPECTRA (EIS)	2
99	Properties Electrochemical Analysis	2
100	Carbon Clusters Chemical	2
101	Chemical Bonding Carbon	2
102	Chemical Graphene Carbon	2
103	Materials Electrochemical Characterizations	2
104	Fabrication Electrochemical Characterization Supercapacitor Threedimensional	2
105	Synthesis Electrochemical Characterization Uniformlydispersed High	2
106	Synthesis Electrochemical Characterization	2
107	Characterizations Electrochemical Properties	2
108	Indentation Characterization Chemical	2
109	Growth Thermal Chemical	2
110	Graphene Structure Chemical	2
111	Grown Low-Pressure Chemical	2
112	Graphene Hot-Filament Chemical	2
113	Graphene Glass Chemical	2
114	Graphene Domains Chemical	2
115	Graphene Direct-Liquid-Injection Chemical	2
116	Graphene Adlayer-Free Chemical	2
117	Graphene Mgo Chemical	2
118	Graphene Nanofibers Chemical	2
119	Grown Low-Pressure Chemical	2
120	Grown Hot-Filament Chemical	2
121	Grown Direct-Liquid-Injection Chemical	2
122	Grown Copper Chemical	2
123	Graphene Plasma-Enhanced Chemical	2
124	Graphene Patterns Chemical	2
125	Sensor L-Arginine Chemical	2
126	Temperature P-Type Chemical	2
127	Substrate Atmospheric-Pressure Chemical	2
128	Materials Twostep Chemical	2
129	Formation Strong Chemical	2

86	Active Facilitating Formation	2
87	Active Facilitating Formation Graphene Grains	2
88	Cvd Growth Formation	2
89	Carbon Radicals Formation Esters Ethers	2
90	Carbon Source Formation Metal Carbides	2
91	Copper Surface Formation	2
92	Formation Bilayer Few-Layer	2
93	Formation Bilayer Graphene	2
94	Formation Energy Dent	2
95	Formation Energy Kink	2
96	Formation Esters Ethers	2
97	Formation Flg Nickel	2
98	Formation Graphene Lattice	2
99	Formation Graphene Nanoribbons	2
100	Formation Graphene Patterns	2
101	Formation Grow Monolayer	2
102	Formation Hexagonal Domain	2
103	Formation Hydrogen Etching	2
104	Formation Energies Kink	2
105	Formation Electron Field	2
106	Formation Dissolvable Species	2
107	Formation Carbon Nanotubegraphene	2
108	Formation Blg Seeds	2
109	Formation C-Ta Phase	2
110	Formation Carbide Phas	2
111	Formation Catalyst Hinders	2
112	Formation Carbon Cluster	2
113	Formation Carbon Monomers	2
114	Formation Case Nickel	2
115	Formation Dimer Monomers	2
116	Formation Charge Ions	2
117	Formation Conduction-Band Electronic	2
118	Formation Continuous Oxide	2
119	Value Favors Formation Bilayer Few-Layer	2
120	Model Formation Graphene	2
121	Deformation Behavior Graphene	2
122	Facilitating Formation Graphene	2
123	Information Graphene Growth	2

GRAPHENE

No	Names	Counts
1	Graphene Grown Chemical	32
2	Graphene Films Grown	30
3	Raman Spectra Graphene	28
4	Vapor Deposition Graphene	22
5	Graphene Film Grown	18
6	Graphene Chemical Vapor	17
7	Single-Layer Graphene	16
8	High Quality Graphene	14
9	Graphene Films Copper	14
10	Graphene Growth Chemical	14
11	Raman Spectrum Graphene	13
12	Direct Growth Graphene	13
13	Pecvd Grown Graphene	13
14	Spectra Graphene Grown	12
15	Graphene Copper Chemical	12
16	Growth Mechanism Graphene	12
17	Surface Covered Graphene	12
18	Graphene Nucleation Density	10
19	Growth Single-Layer Graphene	10
20	Graphene Grown Chemical Vapor Deposition	9
21	Single Layer Graphene	9
22	Cvd Synthesis Graphene	8
23	Graphene Fsi Testing	20
24	Graphene Sic Substrate	16
25	Carbon Nanotubes Graphene	8
26	Graphene Films Chemical	8
27	Quantifying Defects Graphene	8
28	Bubbling Transfer Graphene	8
29	Growth Bilayer Graphene	8
30	Stiffening Cvd Graphene	8
31	Graphene Vdw Interaction	8
32	Graphene Hybrid Materials	8
33	Surface Morphology Graphene	8
34	Surface Coverage Graphene	8
35	Graphene Insulating Substrates	8
36	Graphene Consecutive Reloading	8
37	Growth Rate Graphene	16
38	Graphene Carbon Nanotube	7
39	Graphene Grown Graphite	7
40	Single-Crystal Graphene	7
41	Defects Graphene Raman	6

130	Graphene Constriction Scanning	4
131	Method Grow Graphene	4
132	Graphene Cvd Method	4
133	Properties Epitaxial Graphene	4
134	Graphene Films Growth	4
135	Doping Effect Graphene	4
136	Properties Few-Layer Graphene	4
137	Properties Multilayer Graphene	4
138	Growth Temperature Graphene	4
139	Sensing Properties Graphene	4
140	Growth Single-Crystal Graphene	4
141	Graphene Glass Growth	4
142	Graphene Glass Possessing	4
143	Growth Monolayer Graphene	4
144	Graphene Glasses Growth	4
145	Deposition Synthesis Graphene	4
146	Facilitating Growth Graphene	4
147	Graphene First Grown	4
148	Deposition High-Mobility Graphene	4
149	Temperature Growth Graphene	4
150	Graphene Islands Grown	4
151	Graphene Layer-By-Layer Stacking	4
152	Graphene Room Temperature	4
153	Graphene Sensitive Growth	4
154	Twisting Bilayer Graphene	4
155	Graphene Layers Grown	4
156	Method Graphene Grown	4
157	Grown Graphene Material	4
158	Graphene Thickness Growth	4
159	Properties Graphene Coating	4
160	Interaction Graphene Substrate	4
161	Temperature Synthesis Graphene	4
162	Bilayer Graphene Chemical	3
163	Graphene Foam Chemical Vapor Deposition	3
164	Graphene Growth Chemical Vapour Deposition	3
165	Defects Graphene Film	3
166	Single Layer Graphene Grown Chemical	3
167	Defect Density Graphene	3
168	Graphene Vertically Aligned	3
169	Graphene Growth Mechanisms	3
170	Double Layer Graphene	3
171	Graphene Films Arbitrary	3
172	Graphene Transparent Conductive	3
173	Boundary Fs Graphene	3

174	Single Crystal Graphene	3
175	Graphene Hexagonal Boron	3
176	Graphene Grain Size	3
177	Synthesized Layer Graphene	3
178	Graphene Synthesis Cu	3
179	Continuous Monolayer Graphene	3
180	Chemically Exfoliated Graphene	3
181	Graphene Grown Gradient	3
182	Synthesis Nanocrystalline Graphene Insulating Substrates	3
183	Synthesis Nanocrystalline Graphene	3
184	Graphene Layers Raman	3
185	Graphene Films Low	3
186	Cnt Multilayer Graphene	3
187	Graphene Films High-Performance	3
188	High-Quality Monolayer Graphene	3
189	Graphene Grown Oxygen	3
190	Graphene Hybrids High	3
191	Bubbling Transfer Graphene Millimetre-Size Single-Crystal	3
192	Transfer Large-Area Graphene Films High-Performance	3
193	Monolayer Bilayer Graphene	3
194	Forest Grown Graphene	3
195	Graphene Afm Tip	3
196	Graphene Nanocrystals Graphene	3
197	Nominal Softening Graphene	3
198	Monolayer Bilayer Graphene Copper Chemical	3
199	Graphene Copper Foil	3
200	Vacancy Defects Graphene Film Adsorption	3
201	Graphene Quartz Glass	3
202	Graphene Composite Uv	3
203	Vacancy Defects Graphene	3
204	Pgr Hybrid Graphene	3
205	Graphene Coating Synthesized	3
206	Graphene Coatings Deposited	3
207	Twisted Bilayer Graphene	3
208	Fs Cvd Graphene	3
209	Graphene Platform Electrode	3
210	Graphene Coating Mo	3
211	Grain Boundaries Graphene Grown Chemical	3
212	Graphene Coating Mo-G	3
213	Graphene Film Continuous	3
214	Graphene Adhesive Boundary	3
215	Lateral Size Graphene	3
216	Graphene Millimetre-Size Single-Crystal	3
217	Graphene Film Grown Flow Rate	3

218	Layer Graphene Grown Chemical Vapor	3
219	Sem Graphene Grown	3
220	Spectrum Graphene Grown	3
221	Boundaries Graphene Grown Chemical Vapour	3
222	Epitaxial Graphene Grown	3
223	Boundaries Graphene Grown	3
224	Area Graphene Grown Chemical Vapor	3
225	Grown Graphene Layer	3
226	Quality Graphene Grown	3
227	Grown Graphene Films	3
228	Growth Graphene Mgo	3
229	Evolution Graphene Growth Ni Cu	3
230	Growth Graphene Nanofibers	3
231	Growth Graphene Glass	3
232	Growth Graphene Copper	3
233	Growth Graphenecarbon Nanotube	3
234	Asymmetric Graphene Growth	3
235	Large-Scale Pattern Growth Graphene Films	3
236	Functionalized Graphene	3
237	Graphene Film Adsorption Gaseous Molecules	3
238	Tip-Graphene Vdw Interaction	3
239	Interaction Graphene Copper	3
240	Nanocrystalline Graphene Insulating	3
241	Nanocrystalline Graphene Insulating Substrates Carbon	3
242	Graphene-Based Nanosheets Chemical Exfoliated Graphite	2
243	Graphene Sapphire Chemical Vapor Deposition	2
244	Graphene-Based Nanosheets Chemical	2
245	Hydrogen Graphene Chemical	2
246	Synthesis Graphene Chemical	2
247	Layers Graphene Chemical	2
248	Bilayer Graphene Chemical Vapor Deposition	2
249	Graphene Films Chemical Vapor Deposition	2
250	Hydrogen Graphene Chemical Vapor Deposition	2
251	Defects Graphene Layers	2
252	Defects Graphene Films	2
253	Probing Nature Defects Graphene Raman	2
254	Graphene Controlled Single	2
255	Spectra Deposited Graphene	2
256	Spectra Cvd Graphene	2
257	Growth Adlayer Graphene Cu Carbon	2
258	Nature Defects Graphene	2
259	Grain Size Graphene	2
260	Graphene Cu Plasma	2
261	Graphene Grown Glass	2

350	Residual Bonds Graphene	2
351	Height Profile Graphene	2
352	Response Cvd Graphene	2
353	Response Fs Graphene	2
354	Hbn Encapsulated Graphene	2
355	Role Hydrogen Graphene	2
356	Dominantly Multilayer Graphene	2
357	Graphene Coating Barrier	2
358	Graphene Material Electronic	2
359	Graphene Single Layer	2
360	Amorphous Carbon Graphene	2
361	Graphene Sto Nanoparticle	2
362	Vapor Deposition Graphene Constriction Scanning	2
363	Area Uniform Graphene	2
364	Graphene Substrate Sidewall	2
365	Graphene Plotted Vs	2
366	Ta Foil Graphene	2
367	Graphene Hybrids Conductive	2
368	Graphene Nanosheets Thermal	2
369	Graphene Hybrids Seamless	2
370	Graphene Synthesized Batch	2
371	Graphene Hybrids Nanostructures	2
372	Synthesis Monolayer Graphene	2
373	Graphene Hybrids Electrochemical	2
374	Graphene Silicon Oxides	2
375	Afm Image Graphene	2
376	Graphene Silicon Dioxide	2
377	Transport Properties Graphene	2
378	Transfer Cvd Graphene	2
379	Transfer Area Graphene Grown Chemical	2
380	Ab-Stacked Bilayer Graphene Layer-By-Layer Stacking	2
381	Transfer Area Graphene	2
382	Accelerate Growth Graphene	2
383	Graphene Layers Low	2
384	Adlayer-Free Monolayer Graphene	2
385	Graphene Layers Ev	2
386	Thought Homogeneous Graphene	2
387	Graphene Signals Detected	2
388	Bi- Layer Graphene	2
389	Technique Synthesis Graphene	2
390	Graphene Oxide Graphene	2
391	Graphene One-Step Cvd	2
392	Xps Spectra Graphene	2
393	Boundaries Cvd Graphene	2

438	Effect Graphene Concentration	2
439	Graphite Oxide Functionalized Graphene	2
440	Single Graphene	2
441	Bi-Layer Graphene Coating	2
442	Graphene Fsi Testing	2
443	Oxygen Growth Single-Crystal Graphene	2
444	Graphene Glass Possessing Pristine Sheet	2
445	Large-Area Graphene Single Crystals	2
446	Properties Graphene Coating	2
447	Pointing Graphene Coating	2
448	Growth Inch-Sized Single-Crystalline Graphene	2
449	Single-Crystalline Graphene	2
450	Transmittance Graphene Glass	2
451	HIGH-QUALITY MONOLAYER GRAPHENE (MLG)	2
452	GRAPHENE PLATFORM ELECTRODE (GPE)	2
453	BILAYER GRAPHENE (BLG)	2
454	GRAPHENE CARBON NANOTUBE (CNT)	2
455	Graphene Corroborated Analysis	2
456	Analysis Cvd Graphene	2
457	Graphene Nanostructured Carbon	2
458	Graphene Low Carbon	2
459	Graphene Liquid Carbon	2
460	Graphene Layer Carbon	2
461	Graphene Blending Carbon	2
462	Graphene Cnt Carbon	2
463	Graphene Combined Carbon	2
464	Graphene Grown Carbon	2
465	Graphene Quality Carbon	2
466	Graphene Regime Carbon	2
467	Carbon Concentration Graphene	2
468	Carbon Impurities Graphene	2
469	Carbon Forming Graphene	2
470	Carbon Precursors Graphene	2
471	Chemical Graphene Carbon	2
472	Carbon Nanofillers Graphene	2
473	Direct Optical Characterization Graphene Growth	2
474	Characterizations Synthesized Graphene	2
475	Structural Electronic Characterization Graphene Grown	2
476	Characterization Graphene Tantalum	2
477	Characterization Graphene Layers	2
478	Characterization Graphene Growth	2
479	Characterization Graphene Films	2
480	Characterization Graphene Cu	2
481	Characterization As-Synthesized Graphene	2

42	Grown Glass Surface	4
43	Sensor Pecvd Grown	4
44	Grown Oxygen Activation	4
45	Method Graphene Grown	4
46	Grown Cvd Method	4
47	Grown Graphene Material	4
48	Grown Gradient Growth	4
49	Chemical Vapor Deposition-Grown	3
50	Single Layer Graphene Grown Chemical	3
51	Graphene Grown Gradient	3
52	Graphene Grown Oxygen	3
53	Forest Grown Graphene	3
54	Grain Boundaries Graphene Grown Chemical	3
55	Graphene Film Grown Flow Rate	3
56	Layer Graphene Grown Chemical Vapor	3
57	Sem Graphene Grown	3
58	Spectrum Graphene Grown	3
59	Boundaries Graphene Grown Chemical Vapour	3
60	Epitaxial Graphene Grown	3
61	Grown Ni Ss	3
62	Cnts Arrays Grown	3
63	Boundaries Graphene Grown	3
64	Area Graphene Grown Chemical Vapor	3
65	Grown Graphene Layer	3
66	Raman Spectra Grown	3
67	Quality Graphene Grown	3
68	Grown Top Side	3
69	Grown Graphene Films	3
70	Graphene Grown Glass	2
71	Spectra Directly-Grown Graphene	2
72	Graphene Grown Re	2
73	Spectra Re-Grown Graphene	2
74	Graphene Grown Ta	2
75	Graphene Grown Top	2
76	Raman Spectra Graphene Grown Oxygen	2
77	Raman Spectra Graphene Grown Temperatures	2
78	Raman Spectra Graphene Grown Graphite	2
79	Transfer Area Graphene Grown Chemical	2
80	Grown Gnfs Ni	2
81	Pgr Hybrid Grown	2
82	Cnts Forest Grown Graphene Layer	2
83	Grown Carbon Nanotubes	2
84	Single-Layer Graphene Grown	2
85	Grown Single Crystalline	2

SURFACE

No	Names	Counts
1	Surface Covered Graphene	12
2	Surface Morphology Graphene	8
3	Surface Coverage Graphene	8
4	Surface Oxygen Growth	6
5	Substrate Surface Morphology	5
6	Surface Catalysis Carbon	4
7	Grown Glass Surface	4
8	Surface Volume Ratio	4
9	Oxidation Mo Surface	4
10	Electrochemically Active Surface	3
11	Glass Surface Growth	2
12	Surface Oxygen Growth Single-Crystal Graphene	2
13	Surface Area High	2
14	Surface Bare Mo	2
15	Surface Free Surface	2
16	Surface Suspended Cu	2
17	Covered Cu Surface	2
18	Layer Metal Surface	2
19	Surface Wave Plasma	2
20	High Conductivity Surface	2
21	High Quality Surface	2
22	Surface Area Electrical	2
23	Bare Mo Surface	2
24	Hybrids Active Surface	2
25	Surface Pellets Uniaxial	2
26	Nanostructure High Surface	2
27	Surface Double Layer	2
28	Quality Graphene Surface	2
29	Pgr Hybrid Surface	2
30	Immigration Surface Carbon	2
31	Surface Glassy Carbon	2
32	Surface Morphology Carbon	2
33	Surface Properties Carbon	2
34	Carbon Emits Surface	2
35	Carbon Segregated Surface	2
36	Carbon Species Surface	2
37	Carbon Nanostructure Surface	2
38	Carbon Nanotubes Surface	2
39	Species Surface Characterization	2
40	Chemical Bonds Surface	2
41	Defects Surface Adsorption	2

42	Temperature Growth Effect	2
43	Graphene Processing Temperatures	2
44	Temperature Deposited Graphene	2
45	Temperature Effect Graphene	2
46	Temperature Transport Graphene	2
47	Graphene Grown Temperature	2
48	Graphene Growth Temperature	2
49	Graphene High-Temperature Substrates	2
50	Graphene Narrow Temperature	2
51	Graphene Low Temperature	2
52	Graphene Cvd Temperatures	2
53	Grown Temperature Growth	2
54	Grown Lower Temperatures	2
55	Grown Lower Temperature	2
56	Grown High Temperatures	2
57	Temperature Graphene Grown	2
58	Growth Temperature Bothering	2
59	Growth Temperature Material	2
60	Growth Temperature Xing	2
61	Growth Stage Temperature	2
62	Temperature Effect Growth	2
63	Temperature Factor Growth	2
64	Temperature Favor Growth	2
65	Nucleation High temperature Growth	2
66	Growth Low Temperature	2
67	Processing Temperature Value	2
68	Low temperature Solution Processing Graphene carbon Nanotube	2
69	Low temperature Solution Processing	2
70	Volume High temperature Processing	2
71	Ratio Peaks Temperature	2
72	Substrate Low-Temperature Scanning	2
73	Substrates Low Temperature	2
74	Temperatures Flat Surface	2
75	Surface Temperature Function	2
76	Saturation Low Temperatures	2
77	Temperature Catalytic Graphitization	2
78	Temperature Carbon Concentration	2
79	Temperatures Factor Thinking	2
80	Temperatures Carbon Concentration	2
81	Temperatures Stable Adsorption	2
82	Regulating Growth Temperature	2
83	Deposition Surface Temperatures	2
84	Absorption Irreversible Temperature	2
85	Cooling Room Temperature	2
86	Cooling Growth Temperature	2

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