DOOSAN

"The Best Choice for OLED Materials "

Hole Injection Material

Hole Transporting Material

Emission Material (R, G, B)

Electron transporting Material

DOOSAN Doosan Corporation
Electro-Materials

DS-H522

Application : Green Fluorescent Host

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Yellow Powder	> 99.8%	10g, 50g, 100g	295	377, 397, 420	445	5.52	2.64	2.88

Performance

Current Density (mA/cm^2)	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
10	4.5	2,340	0.305, 0.640	522	23.4	16.3
25	4.9	5,877	0.303, 0.640	521	23.5	15.1
50	5.2	11,400	0.302, 0.639	521	22.8	13.8
100	5.7	21,470	0.300, 0.637	521	21.5	11.8

DS-GH002

Application : Green Fluorescent Host

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Yellow Powder	> 99.8%	10g, 50g, 100g	270	377, 397, 421	444	5.53	2.66	2.87

Performance

Current Density (mA/cm^2)	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
10	4.6	2,274	0.295, 0.646	521	22.7	15.5
25	5.0	5,823	0.294, 0.646	521	23.3	14.6
50	5.4	11,230	0.293, 0.645	520	22.5	13.1
100	5.9	21,640	0.291, 0.644	520	21.6	11.5

DS-H43

Application : Blue Fluorescent Host

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Pale Yellow Powder	> 99.8%	10g, 50g, 100g	273	375, 395	443	5.63	2.45	3.18

Performance

Current Density (mA/cm^2)	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
10	5.1	605	0.148, 0.157	453	6.1	3.8
25	5.9	1,533	0.148, 0.157	453	6.1	3.3
50	6.6	3,069	0.148, 0.156	453	6.1	2.9
100	7.5	6,016	0.148, 0.154	453	6.0	2.5

DS-H45

Application : Blue Fluorescent Host

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Pale Yellow Powder	> 99.8%	10g, 50g, 100g	296	375, 395	445	6.0	2.9	3.1

Performance

Current Density (mA/cm^2)	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
10	5.0	556	0.159, 0.180	456	5.6	3.5
25	5.8	1437	0.157, 0.176	456	5.7	3.1
50	6.6	2905	0.156, 0.173	456	5.8	2.8
100	7.4	5757	0.156, 0.170	456	5.8	2.4

DS-405

Application : Blue Fluorescent Dopant

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Pale yellowish green Powder	> 99.8%	5g, 10g, 20g	263	389	451	5.12	2.19	2.93

Performance

Current Density (mA/cm^2)	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
10	5.1	605	0.148, 0.157	453	6.1	3.7
25	5.9	1533	0.148, 0.157	453	6.1	3.3
50	6.6	3069	0.148, 0.156	453	6.1	2.9
100	7.5	6016	0.148, 0.154	453	6.0	2.5

DS-205

Application : Hole Injection Material

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Light Yellow Powder	> 99.0%	10g, 50g, 100g	262	360	470	5.1	1.8	3.3

Performance

▪ **Device's structure (unit : Å) :**

DS-205 (400~1,000) / NPB (150) / C-545T doped Alq3 (2%, 300) / Alq3 (250) / LiF (10) / Al (2,000)

HIL Thickness / Å	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
400	4.2	1,251	0.311, 0.642	523	12.5	9.3
600	4.3	1,245	0.280, 0.656	521	12.5	9.1
800	4.3	1,300	0.274, 0.663	521	13.0	9.5
1,000	4.3	1,373	0.261, 0.671	521	13.7	10.0

DS-NPB

Application : Hole Transporting Material

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Light Yellow Powder	> 99.5%	10g, 50g, 100g	279	341	456	5.6	2.8	2.8

Performance

▪ **Device's structure (unit : Å) :**

DS-205 (800) / NPB (150) / C-545T doped Alq3 (2%, 300) / Alq3 (250) / LiF (10) / Al (2,000)

Current Density (mA/cm^2)	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
10	4.7	1,226	0.288, 0.653	522	12.3	8.2
25	5.6	3,064	0.288, 0.653	522	12.3	6.9
50	6.3	6,142	0.288, 0.653	522	12.3	6.1
100	7.1	12,340	0.287, 0.652	522	12.3	5.4

DS-700

Application : Electron Transporting Material

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Pale Yellow Powder	> 99.8%	10g, 50g, 100g	293	356, 375, 395	443	5.53	2.48	3.05

Performance

Current Density (mA/cm^2)	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
10	5	649	0.144, 0.147	456	6.5	4.1
25	5.8	1,678	0.144, 0.148	456	6.7	3.6
50	6.4	3,388	0.145, 0.148	456	6.8	3.3
100	7.1	6,698	0.145, 0.148	456	6.7	3.0

DS-773

Application : Electron Transporting Material

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Yellow Powder	> 99.9%	10g, 50g, 100g	-	398, 419	442, 459	5.68	2.97	2.89

Performance

Current Density (mA/cm^2)	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
10	5.0	626	0.147, 0.147	456	6.3	3.9
25	5.6	1645	0.147, 0.147	456	6.6	3.7
50	6.2	3374	0.147, 0.146	456	6.7	3.4
100	6.9	6760	0.147, 0.144	456	6.8	3.1

DS-ET002

Application : Electron Transporting Material

Property

Appearance	Purity	Packing	Mp (°C)	UV abs Max(nm)	PL ems Max(nm)	HOMO (eV)	LUMO (eV)	Band gap (eV)
Light Yellow Powder	> 99.8%	10g, 50g, 100g	309	370, 390, 414	441	5.59	2.67	2.92

Performance

Current Density (mA/cm^2)	Voltage (V)	Luminance (cd/m^2)	CIE (x, y)	Peak (nm)	cd/A	lm/W
10	4.8	687	0.149, 0.154	456	6.9	4.5
25	5.2	1,798	0.148, 0.152	456	7.2	4.3
50	5.7	3,574	0.148, 0.151	456	7.1	3.9
100	6.3	6,843	0.148, 0.149	456	6.8	3.4