

# Technical Report

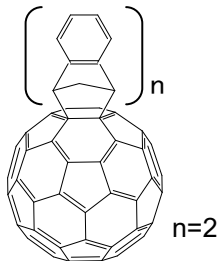
## Indene-C<sub>60</sub> adducts "nanom<sup>®</sup> spectra Q100, Q400"

Frontier Carbon Corporation have succeeded in consistent production of Indene-C<sub>60</sub> monoadduct, nanom<sup>®</sup> spectra Q100 and Indene-C<sub>60</sub> bisadduct, nanom<sup>®</sup> spectra Q400, for OPV application. The OPV based on Indene adducts was reported to show higher open-circuit voltage than that of OPV based on [60]PCBM<sup>\*1</sup>.

Please try our Indene-C<sub>60</sub> adducts, **nanom<sup>®</sup> spectra Q100 & Q400** !



**nanom<sup>®</sup> spectra Q100**  
Indene-C<sub>60</sub> monoadduct



Mixture of isomers  
**nanom<sup>®</sup> spectra Q400**  
Indene-C<sub>60</sub> bisadduct

Grade Name	nanom <sup>®</sup> spectra	
	Q100	Q400
Molecular Formula	C <sub>69</sub> H <sub>8</sub>	C <sub>78</sub> H <sub>16</sub>
Molecular Weight	836.80	952.96
Purity*	99 A%	99 A%

\*The data is typical value by HPLC analysis.

### Solubility

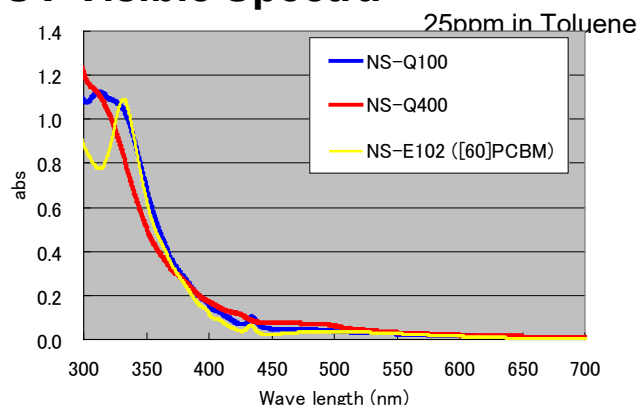
Solvent	NS-Q100 (mono)	NS-Q400 (bis)	NS-E102 ([60]PCBM)
Toluene	0.4wt%	10wt%	1wt%

### 1<sup>st</sup> Reduction Potential

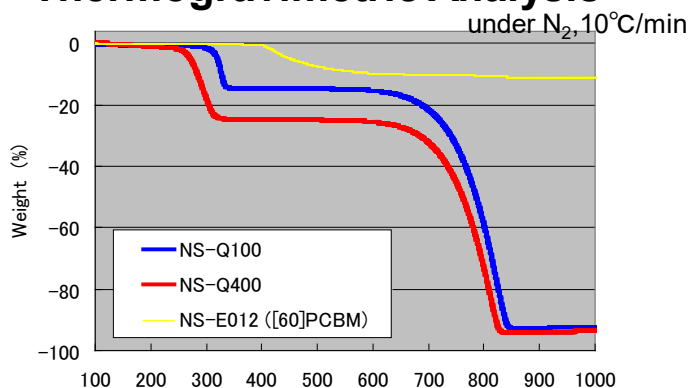
	NS-Q100 (mono)	NS-Q400 (bis)
E <sup>1/2</sup>	-1.13V	-1.26V
	NS-E102 ([60]PCBM)	NS-E400 (bis[60]PCBM)
E <sup>1/2</sup>	-1.09V	-1.19V

Potential in volts vs Fc/Fc+ measured with CV in 4:1 o-Dichlorobenzene-Acetonitrile(v/v) containing TBAP(0.1M) as a supporting electrolyte. GC, Pt wire, and Ag/Ag+ electrodes, respectively.

### UV-Visible Spectra



### Thermogravimetric Analysis



\*1References

- Temperature. (°C)  
 • J. Am. Chem. Soc., **2010**, 132(4), pp1377-1382  
 • WO2008/018931

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