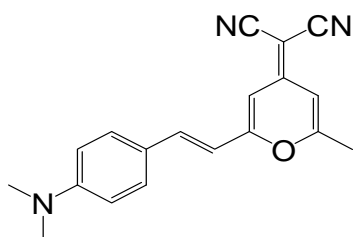


# Red Dopant Materials

LT-E701

DCM

**(E)-2-(2-(4-(dimethylamino)styryl)-6-methyl-4H-pyran-4-ylidene) malononitrile**

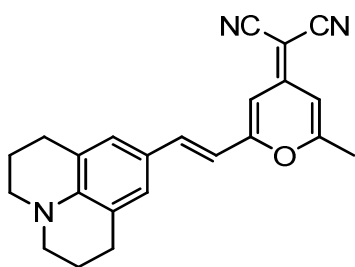


Formula :  $C_{19}H_{17}N_3O$   
 Molecular Weight : 303.36 g/mole  
 Thermal Gravimetric Analysis : 270°C (0.5% weight loss)  
 Absorption : 462nm (in THF)  
 Photoluminescence : 577nm (in THF)  
 Reference : *Appl. Phys. Lett.* 79, 7, P1045-1047, 2001.

LT-E702

DCM2

**4-(Dicyanomethylene)-2-methyl-6-julolidyl-9-enyl-4H-pyran**

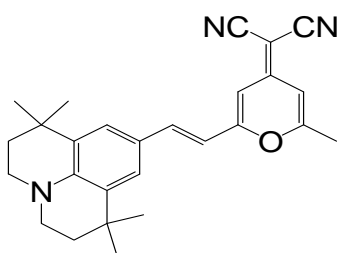


Formula :  $C_{23}H_{21}N_3O$   
 Molecular Weight : 355.43 g/mole  
 Thermal Gravimetric Analysis : 250°C (0.5% weight loss)  
 Absorption : 497nm (in THF)  
 Photoluminescence : 605nm (in THF)  
 Reference : *Chem. Phys. Lett.* 287, 3-4, 455-460, 1998.

LT-E703

DCJT

**4-(Dicyanomethylene)-2-methyl-6-(1,1,7,7-tetramethyljulolidyl-9-enyl)-4H-pyran**

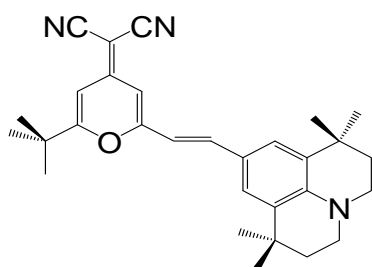


Formula :  $C_{27}H_{29}N_3O$   
 Molecular Weight : 411.54 g/mole  
 Thermal Gravimetric Analysis : 290°C (0.5% weight loss)  
 Absorption : 497nm (in THF)  
 Photoluminescence : 604nm (in THF)  
 Reference : *Proc. 2nd Internat. Sym. Chem. Functional Dyes*, 1992, 5

LT-E704

DCJTB

**4-(Dicyanomethylene)-2-tert-butyl-6-(1,1,7,7-tetramethyljulolidin-4-yl-vinyl)-4H-pyran**

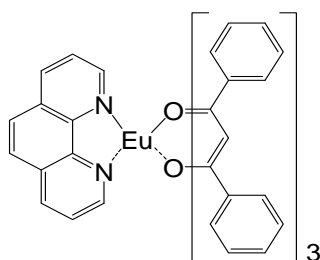


Formula :  $C_{30}H_{35}N_3O$   
 Molecular Weight : 453.62 g/mole  
 Thermal Gravimetric Analysis : 270°C (0.5% weight loss)  
 Absorption : 501nm (in THF)  
 Photoluminescence : 602nm (in THF)

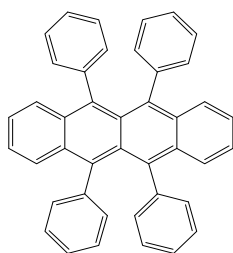
LT-E706

Eu(dbm)<sub>3</sub>(Phen)

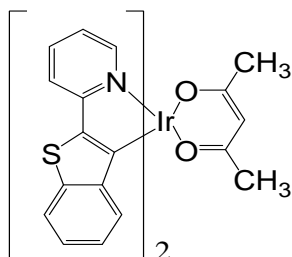
**Tris(dibenzoylmethane)phenanthroline europium(III)**



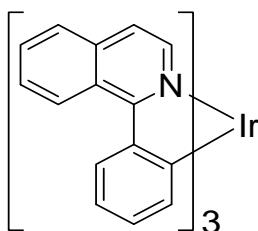
Formula :  $C_{57}H_{41}N_2O_2Eu$   
 Molecular Weight : 937.91 g/mole  
 Thermal Gravimetric Analysis : 200°C (0.5% weight loss)  
 Absorption : 257, 355nm (in THF)  
 Photoluminescence : 615nm (in THF)

**LT-E707****Rubrene****(5,6,11,12)-Tetraphenylnaphthacene**

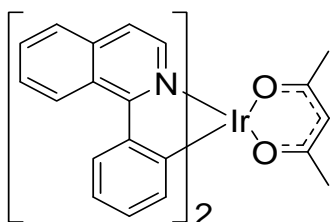
Formula :  $C_{42}H_{28}$   
 Molecular Weight : 532.67 g/mole  
 Thermal Gravimetric Analysis : 270°C (0.5% weight loss)  
 Absorption : 299nm (in THF)  
 Photoluminescence : 553nm (in THF)

**LT-E709****Ir(btp)<sub>2</sub>(acac)****Bis(2-benzo[b]thiophen-2-yl-pyridine)(acetylacetonate)iridium(III)**

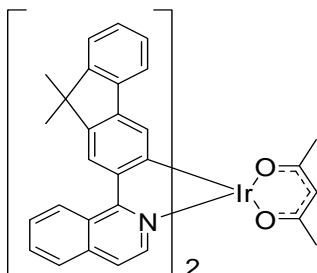
Formula :  $C_{31}H_{23}N_2O_2S_2Ir$   
 Molecular Weight : 711.87 g/mole  
 Thermal Gravimetric Analysis : 340°C (0.5% weight loss)  
 Absorption : 283nm (in THF)  
 Photoluminescence : 615nm (in THF)

**LT-E711****Ir(piq)<sub>3</sub>****Tris(1-phenylisoquinoline)iridium(III)**

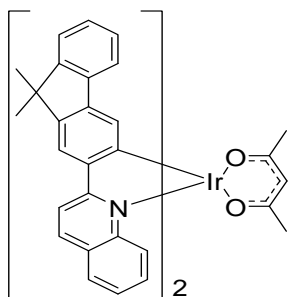
Formula :  $C_{45}H_{30}N_3Ir$   
 Molecular Weight : 804.96 g/mole  
 Thermal Gravimetric Analysis : 370°C (0.5% weight loss)  
 Absorption : 324, 427nm (in THF)  
 Photoluminescence : 615nm (in THF)  
 Reference : IDMC 2005, 126

**LT-E713****Ir(piq)<sub>2</sub>(acac)****Bis(1-phenylisoquinoline)(acetylacetonate)iridium(III)**

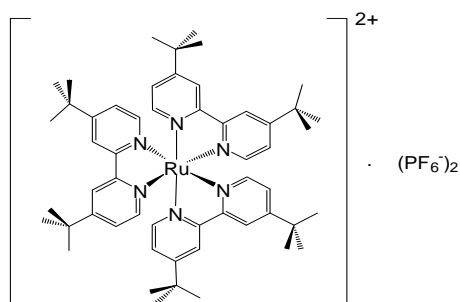
Formula :  $C_{35}H_{27}N_2O_2Ir$   
 Molecular Weight : 699.82 g/mole  
 Thermal Gravimetric Analysis : 350°C (0.5% weight loss)  
 Absorption : 287nm (in THF)  
 Photoluminescence : 624nm (in THF)

**LT-N721****Ir(fliq)<sub>2</sub>(acac)****Bis[1-(9,9-dimethyl-9H-fluoren-2-yl)-isoquinoline](acetylacetonate)iridium(III)**

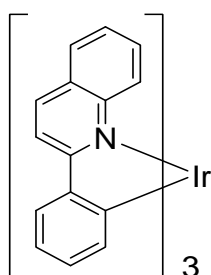
Formula :  $C_{53}H_{43}N_2O_2Ir$   
 Molecular Weight : 932.14 g/mole  
 Thermal Gravimetric Analysis : 380°C (0.5% weight loss)  
 Absorption : 285, 368nm (in THF)  
 Photoluminescence : 653nm (in THF)

**LT-N724 Ir(flq)<sub>2</sub>(acac)****Bis[2-(9,9-dimethyl-9H-fluoren-2-yl)quinoline](acetylacetonate) iridium(III)**

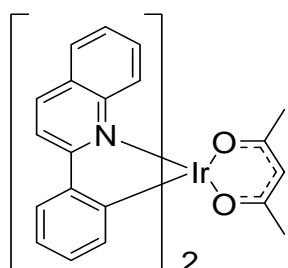
Formula	: C <sub>53</sub> H <sub>43</sub> N <sub>2</sub> O <sub>2</sub> Ir
Molecular Weight	: 932.14 g/mole
Thermal Gravimetric Analysis	: 350°C (0.5% weight loss)
Absorption	: 309, 368nm (in THF)
Photoluminescence	: 615nm (in THF)

**LT-N727 Ru(dtb-bpy)<sub>3</sub> · 2(PF<sub>6</sub>)<sup>-</sup>****Tris[4,4'-di-tert-butyl-(2,2')-bipyridine]ruthenium(III) complex**

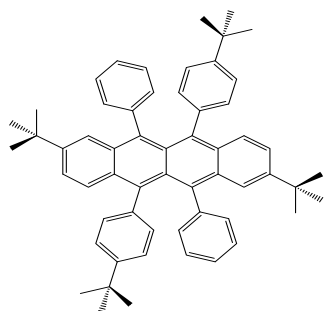
Formula	: C <sub>54</sub> H <sub>72</sub> N <sub>6</sub> F <sub>12</sub> P <sub>2</sub> Ru
Molecular Weight	: 1196.19 g/mole
Thermal Gravimetric Analysis	: 380°C (0.5% weight loss)
Absorption	: 289, 462nm (in THF)
Photoluminescence	: 614nm (in THF)

**LT-N728 Ir(2-phq)<sub>3</sub>****Tris(2-phenylquinoline)iridium(III)**

Formula	: C <sub>45</sub> H <sub>30</sub> N <sub>3</sub> Ir
Molecular Weight	: 804.97 g/mole
Thermal Gravimetric Analysis	: 400°C (0.5% weight loss)
Absorption	: 271, 406nm (in THF)
Photoluminescence	: 578nm (in THF)

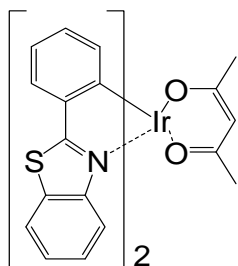
**LT-N729 Ir(2-phq)<sub>2</sub>(acac)****Bis(2-phenylquinoline)(acetylacetonate)iridium(III)**

Formula	: C <sub>35</sub> H <sub>27</sub> N <sub>2</sub> O <sub>2</sub> Ir
Molecular Weight	: 699.82 g/mole
Thermal Gravimetric Analysis	: 300°C (0.5% weight loss)
Absorption	: 279, 344nm (in THF)
Photoluminescence	: 590nm (in THF)

**LT-N732 TBRb****2,8-Di-tert-butyl-5,11-bis(4-tert-butylphenyl)-6,12-diphenyltetracene**

Formula	: C <sub>38</sub> H <sub>60</sub>
Molecular Weight	: 757.10 g/mole
Thermal Gravimetric Analysis	: 340°C (0.5% weight loss)
Absorption	: 306nm (in CH <sub>2</sub> Cl <sub>2</sub> )
Photoluminescence	: 571nm (in CH <sub>2</sub> Cl <sub>2</sub> )
Reference	: <i>Thin Solid Films</i> 496 (2006)626-630

LT-N733

Ir(BT)<sub>2</sub>(acac)**Bis(2phenylbenzothiazolato)(acetylacetonate)iridium(III)**

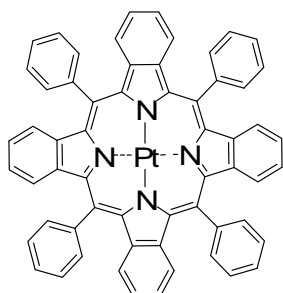
Formula : C<sub>31</sub>H<sub>23</sub>N<sub>2</sub>O<sub>2</sub>S<sub>2</sub>Ir  
 Molecular Weight : 711.87 g/mole  
 Thermal Gravimetric Analysis : 300°C (0.5% weight loss)  
 Absorption : 271nm (in THF)  
 Photoluminescence : 563nm (in THF)

Reference : *Journal of Organometallic Chemistry*, Vol 689, Issue 26, P4882-4888, 2004.

LT-N734

Pt(TPBP)

New



Formula : C<sub>60</sub>H<sub>36</sub>N<sub>4</sub>Pt  
 Molecular Weight : 1008.03 g/mole  
 Absorption : 430, 610nm (in THF)  
 Photoluminescence : 765nm (in THF)

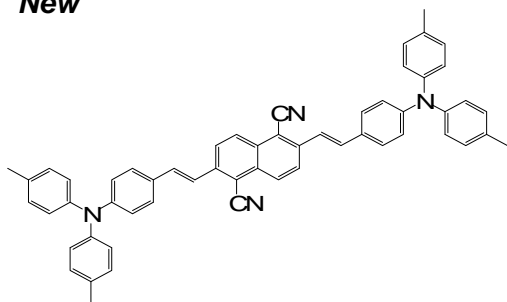
Reference : *Angew. Chem. Int. Ed.* 2007, 46, 1109 –1112

LT-N735

N-DPAVBi-CN

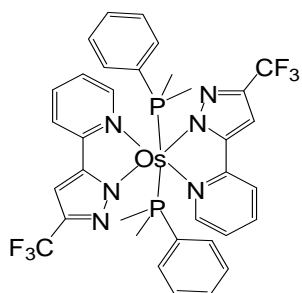
**2,6-bis(4-(dip-tolylamino)styryl)naphthalene-1,5-dicarbonitrile**

New



Formula : C<sub>56</sub>H<sub>44</sub>N<sub>4</sub>  
 Molecular Weight : 772.98 g/mole

LT-N736

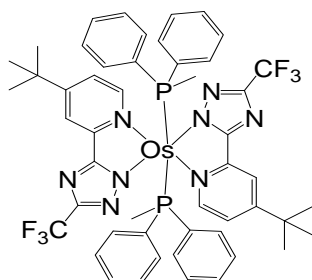
Os(fppz)<sub>2</sub>(PPhMe<sub>2</sub>)<sub>2</sub>**Osmium(II) bis(3-trifluoromethyl-5-(2-pyridyl)-pyrazolate) dimethylphenylphosphine**

Formula : C<sub>34</sub>H<sub>32</sub>F<sub>6</sub>N<sub>6</sub>OsP<sub>2</sub>  
 Molecular Weight : 890.83 g/mole  
 CAS No. : 741252-28-8  
 Absorption : 551nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 Photoluminescence : 630nm (in CH<sub>2</sub>Cl<sub>2</sub>)

Reference : 1. *Organometallics*. 2004, 23, 3745.

2. *J.Phys. Chem. B* 2005, 109, 14000.

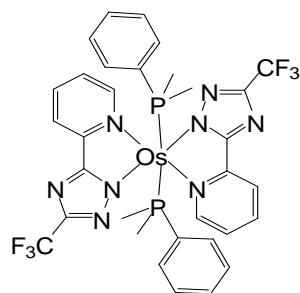
LT-N737

Os(bpftz)<sub>2</sub>(PPh<sub>2</sub>Me)<sub>2</sub>**Osmium(II) bis(3-(trifluoromethyl)-5-(4-tert-butylpyridyl)-1,2,4triazolate) diphenylmethylphosphine**

Formula : C<sub>50</sub>H<sub>50</sub>F<sub>6</sub>N<sub>8</sub>OsP<sub>2</sub>  
 Molecular Weight : 1129.15 g/mole  
 Absorption : 520nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 Photoluminescence : 603nm (in CH<sub>2</sub>Cl<sub>2</sub>)

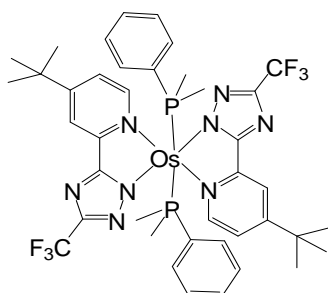
Reference : *Appl. Phys. Lett.* 2006, 88, 251110.

**LT-N738** **Os(fptz)<sub>2</sub>(PPhMe<sub>2</sub>)<sub>2</sub>** **Osmium(II) bis(3-(trifluoromethyl)-5-(2-pyridyl)-1,2,4-triazole) dimethylphenylphosphine**



Formula : C<sub>32</sub>H<sub>30</sub>F<sub>6</sub>N<sub>8</sub>OsP<sub>2</sub>  
 Molecular Weight : 892.80 g/mole  
 Absorption : 551nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 Photoluminescence : 631nm (in CH<sub>2</sub>Cl<sub>2</sub>)

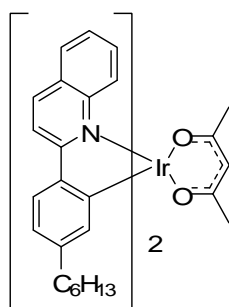
**LT-N739** **Os(bpftz)<sub>2</sub>(PPhMe<sub>2</sub>)<sub>2</sub>** **Osmium(II) bis(3-(trifluoromethyl)-5-(4-tert-butylpyridyl)-1,2,4-triazolate) dimethylphenylphosphine**



Formula : C<sub>40</sub>H<sub>46</sub>F<sub>6</sub>N<sub>8</sub>OsP<sub>2</sub>  
 Molecular Weight : 1005.01 g/mole  
 Absorption : 535nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 Photoluminescence : 612nm (in CH<sub>2</sub>Cl<sub>2</sub>)

**LT-N740** **Hex-Ir(phq)<sub>2</sub>acac** **Bis[2-(4-n-hexylphenyl)quinoline](acetylacetonate)iridium(III)**

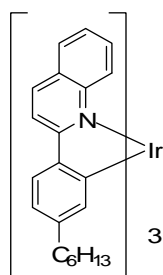
**New**



Formula : C<sub>47</sub>H<sub>51</sub>N<sub>2</sub>O<sub>2</sub>Ir  
 Molecular Weight : 868.14 g/mole  
 Thermal Gravimetric Analysis : 238°C (0.5% weight loss)  
 Absorption : 344nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 Photoluminescence : 588nm (in CH<sub>2</sub>Cl<sub>2</sub>)

**LT-N741** **Hex-Ir(phq)<sub>3</sub>** **Tris[2-(4-n-hexylphenyl)quinoline]iridium(III)**

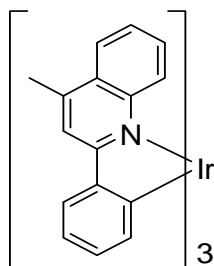
**New**



Formula : C<sub>63</sub>H<sub>66</sub>N<sub>3</sub>Ir  
 Molecular Weight : 1057.43 g/mole  
 Thermal Gravimetric Analysis : 278°C (0.5% weight loss)  
 Absorption : 323nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 Photoluminescence : 583nm (in CH<sub>2</sub>Cl<sub>2</sub>)

**LT-N742** **Ir(Mphq)<sub>3</sub>** **Tris[2-phenyl-4-methylquinoline]iridium(III)**

**New**

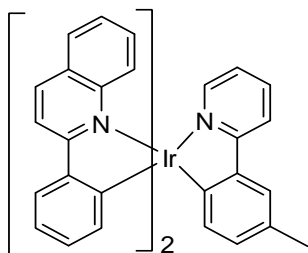


Formula : C<sub>48</sub>H<sub>36</sub>N<sub>3</sub>Ir  
 Molecular Weight : 847.04 g/mole  
 Thermal Gravimetric Analysis : 280°C (0.5% weight loss)

LT-N743

Ir(Mphq)<sub>2</sub>tpy

New



Bis(2-phenylquinoline)(2-(3-methylphenyl)pyridinate)iridium(III)

Formula : C<sub>42</sub>H<sub>30</sub>N<sub>3</sub>Ir

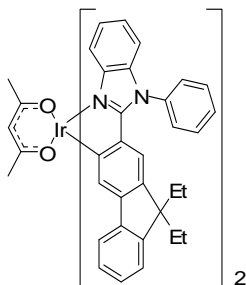
Molecular Weight : 768.93 g/mole

Thermal Gravimetric Analysis

LT-N744

(fbi)<sub>2</sub>Iracac

New



Bis(2-(9,9-diethyl-fluoren-2-yl)-1-phenyl-1H-benzo[d]imidazolato)(actylacetonate)iridium(III)

Formula : C<sub>65</sub>H<sub>57</sub>N<sub>4</sub>O<sub>2</sub>Ir

Molecular Weight : 1118.40 g/mole

Absorption : 421nm (THF)

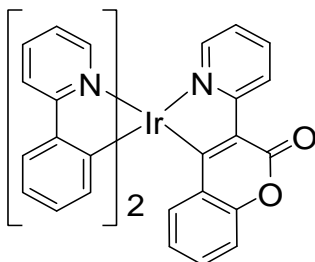
Photoluminescence : 538nm (THF)

Reference : 1. *Angew. Chem. Int. Ed.* 2008, 47, 5812. *Chem. Mater.* 2004, 16, 2480

LT-N745

Ir(ppy)<sub>2</sub>Pc

New



Bis(2-phenylpyridine)(3-(pyridin-2-yl)-2H-chromen-2-one)iridium(III)

Formula : C<sub>36</sub>H<sub>24</sub>N<sub>3</sub>O<sub>2</sub>Ir

Molecular Weight : 722.82 g/mole

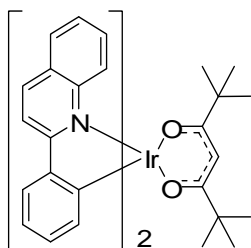
Thermal Gravimetric Analysis : 376°C (0.5% weight loss)

Absorption : 319nm (in CH<sub>2</sub>Cl<sub>2</sub>)Photoluminescence : 582nm (in CH<sub>2</sub>Cl<sub>2</sub>)

LT-N746

PQ<sub>2</sub>Ir(dpm)

New



Bis(2-phenylquinoline)(2,2,6,6-tetramethylheptane-3,5-dionate)iridium(III)

Formula : C<sub>41</sub>H<sub>39</sub>N<sub>2</sub>O<sub>22</sub>Ir

Molecular Weight : 783.98 g/mole

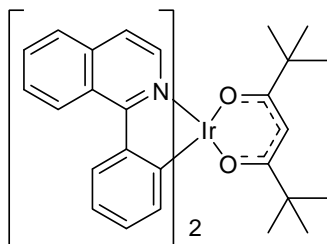
Thermal Gravimetric Analysis : 323°C (0.5% weight loss)

Absorption : 333nm (in CH<sub>2</sub>Cl<sub>2</sub>)Photoluminescence : 595nm (in CH<sub>2</sub>Cl<sub>2</sub>)

LT-N747

Piq<sub>2</sub>Ir(dpm)

New



Bis(phenylisoquinoline)(2,2,6,6-tetramethylheptane-3,5-dionate)iridium(III)

Formula : C<sub>41</sub>H<sub>39</sub>N<sub>2</sub>O<sub>22</sub>Ir

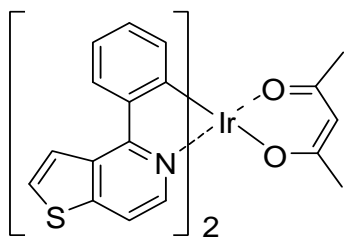
Molecular Weight : 783.98 g/mole

Thermal Gravimetric Analysis : 340°C (0.5% weight loss)

LT-N748

PO-01

New



**Iridium(III) bis(4-phenylthieno[3,2-c]pyridinato-N,C2')acetylacetonate**

Formula :  $C_{31}H_{23}IrN_2O_2S_2$

Molecular Weight : 712.08 g/mole

Thermal Gravimetric Analysis : 395°C

Absorption : 444nm (in  $CH_2Cl_2$ )

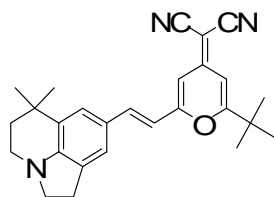
Photoluminescence : 555nm (in  $CH_2Cl_2$ )

Reference : Taiwan patent I242999, 2005; US Patent 7,445,857, 2008

LT-N749

DCQTB

New



**(E)-2-(2-tert-butyl-6-(2-(2,6,6-trimethyl-2,4,5,6-tetrahydro-1H-pyrrolo[3,2,1-ij]quinolin-8-yl)vinyl)-4H-pyran-4-ylidene)malononitrile**

Formula :  $C_{28}H_{31}N_3O$

Molecular Weight : 411.54 g/mole

Absorption : 485nm (in THF)

Photoluminescence : 629nm (in THF)

Reference: Adv. Funct. Mater. 2007, 17, 93–100