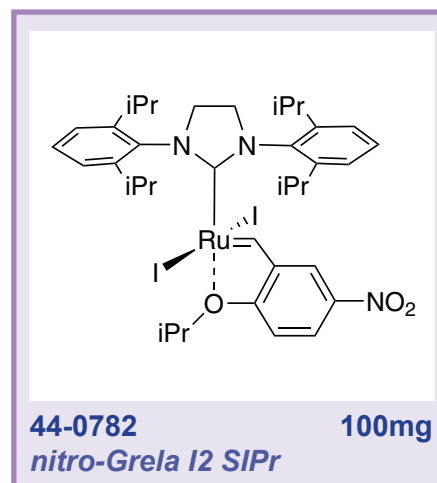
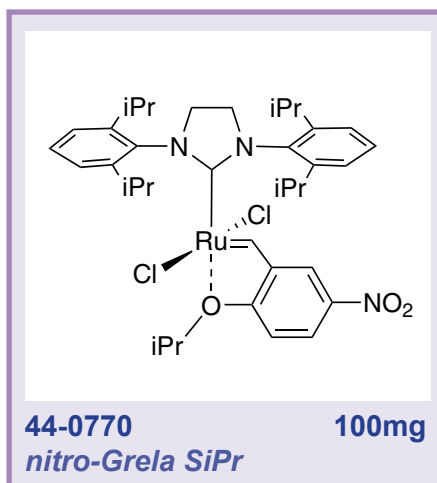
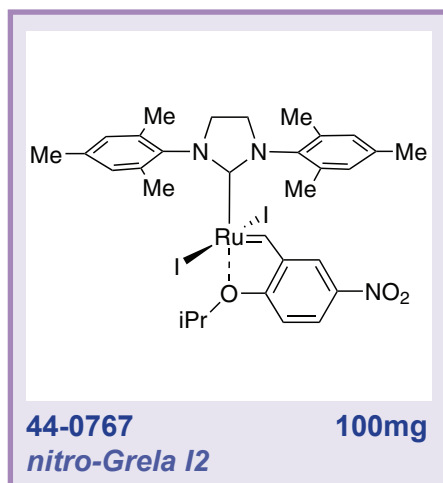
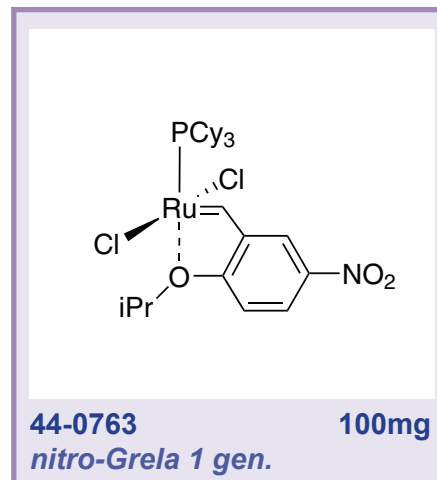
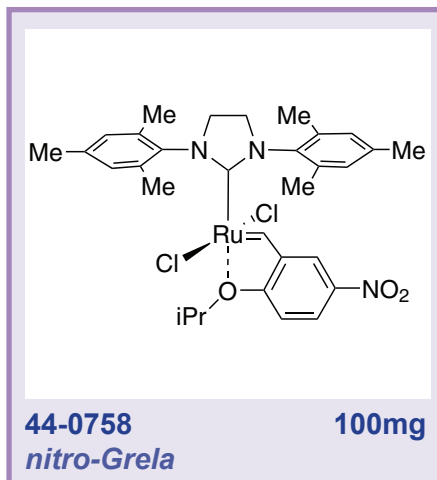
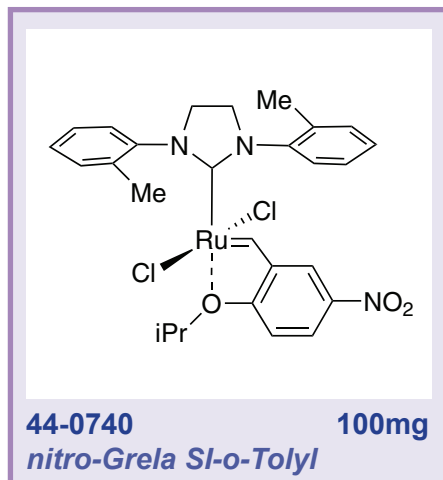


Sold in collaboration with Apeiron Synthesis, Inc.

## 96-0410 Apeiron nitro-Grela Catalysts Kit

Our nitro-Grela Catalysts Kit contains complexes with wide-ranging activity and application profiles. These testing catalysts have excellent potential for a hit in early stages of development.

Components also available for individual sale. Contains the following:



<b>44-0770</b>	<b>1,3-Bis(2,6-di-<i>i</i>-propylphenyl)imidazolidin-2-ylidene)(2-<i>i</i>-propoxy-5-nitrobenzylidene) ruthenium(II) dichloride nitro-Grela SiPr (928795-51-1)</b> C <sub>37</sub> H <sub>49</sub> Cl <sub>2</sub> N <sub>3</sub> O <sub>3</sub> Ru; FW: 755.78; green pwdr. <i>air sensitive, (store cold)</i> Note: Recommended storage 2-8°C. U.S. Patent 6/867,303 PCT/EP2003/01122.	100mg 500mg
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### Technical Note:

- Catalyst for metathesis applications.

### References:

- ACS Catalysis, 2017, 7(8), 5443-5449.
- Catalysis Science & Technology 2017, 7(6), 1284-1296.
- Angew. Chem. 2017, 129, 1001 –1006.

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**44-0782 [1,3-Bis(2,6-di-i-propylphenyl)imidazolidin-2-ylidene](2-i-propoxy-5-nitrobenzylidene) ruthenium(II) diiodide nitro-Grela I2 SIPr (1874265-00-5)** 100mg  
500mg  
C<sub>37</sub>H<sub>49</sub>I<sub>2</sub>N<sub>3</sub>O<sub>3</sub>Ru; FW: 938.68; olive brown powdr.  
*air sensitive, (store cold)*  
Note: Recommended storage 2-8°C. U.S. Patent 6/867,303 PCT/EP2003/01122.

Technical Note:

1. Catalyst for metathesis applications.

References:

1. *Beilstein Journal of Organic Chemistry* **2015**, *11*, 1823-1832.

**44-0767 [1,3-Bis(2,4,6-trimethylphenyl)imidazolidin-2-ylidene)-(2-i-propoxy-5-nitrobenzylidene) ruthenium(II) diiodide nitro-Grela I2 (1874264-99-9)** 100mg  
500mg  
C<sub>31</sub>H<sub>37</sub>I<sub>2</sub>N<sub>3</sub>O<sub>3</sub>Ru; FW: 854.52; olive brown powdr.  
*air sensitive, (store cold)*  
Note: Recommended storage 2-8°C. U.S. Patent 6/867,303 PCT/EP2003/01122.

Technical Note:

1. Catalyst for metathesis applications.

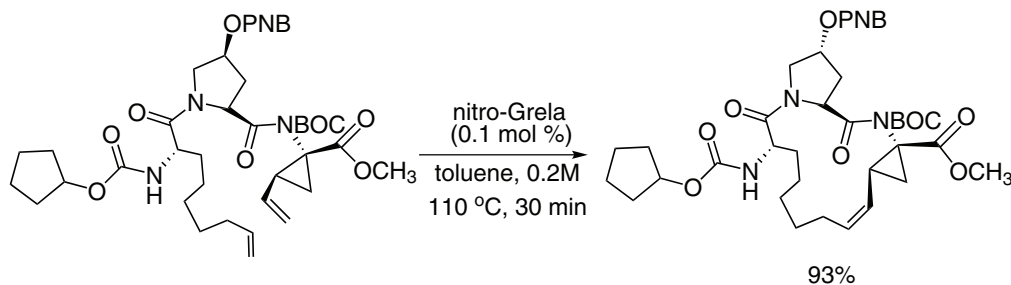
References:

1. *Beilstein Journal of Organic Chemistry* **2015**, *11*, 1823-1832.

**44-0758 [1,3-Bis(2,4,6-trimethylphenylimidazolidin-2-ylidene)]-(2-i-propoxy-5-nitrobenzylidene)ruthenium(II) dichloride nitro-Grela (502964-52-5)** 100mg  
500mg  
C<sub>31</sub>H<sub>37</sub>Cl<sub>2</sub>N<sub>3</sub>O<sub>3</sub>Ru; FW: 671.62; green powdr.  
Note: U.S. Patent 6,867,303, PCT/EP2003/01122. Aperion Ruthenium Metathesis Catalyst Kit component.

Technical Notes:

1. This catalyst is used for an efficient synthesis of HCV Protease Inhibitor, BILN 2061.
2. The nitro-Grela catalyst is a stable olefin metathesis initiator active in various ring-closing, cross, and enyne metathesis reactions. Its efficiency has been proven in numerous total syntheses of natural and biologically active compounds, and in material science (see Ref. 1-9)



Tech. Note (1)  
Ref. (1,2)

References:

1. *Org. Lett.*, **2008**, *1*, 1303
2. *Org. Process Res. Dev.*, **2009**, *13*, 250
3. *Org. Lett.*, **2013**, *15*, 1016
4. *Chem. Eur. J.*, **2013**, *19*, 11847
5. *Org. Lett.*, **2010**, *12*, 248
6. *Angew. Chem. Int. Ed.*, **2008**, *47*, 6483
7. *Tetrahedron Lett.*, **2006**, *47*, 6351
8. *J. Am. Chem. Soc.*, **2004**, *126*, 9318
9. *Angew. Chem. Int. Ed.*, **2002**, *41*, 4038

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**44-0740 (1,3-Di-o-tolylimidazolidin-2-ylidene)(2-i-propoxy-5-nitrobenzylidene)dichlororuthenium(II) nitro-Grela SI-o-Tolyl** 100mg  
500mg  
 $C_{27}H_{29}Cl_2N_3O_3Ru$ ; FW: 615.51; green powdr.  
*air sensitive, (store cold)*  
Note: Recommended storage 2-8°C. U.S. Patent 6/867,303 PCT/EP2003/01122.

Technical Note:

1. Catalyst for metathesis applications.

References:

1. *Angew. Chem*, **2017**, *129*, 1001 –1006.

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**44-0763 Tricyclohexylphosphine(2-i-propoxy-5-nitrobenzylidene)dichlororuthenium(II) nitro-Grela 1 gen.** 100mg  
(625082-83-9) 500mg  
 $C_{28}H_{44}Cl_2NO_3PRu$ ; FW: 645.60; brown powdr.  
*air sensitive, (store cold)*  
Note: Recommended storage 2-8°C. U.S. Patent 6/867,303 PCT/EP2003/01122.

Technical Note:

1. Catalyst for metathesis applications.

References:

1. *ACS Catalysis*, **2017**, *7(8)*, 5443-5449.
  2. *Angew. Chem.* **2017**, *129*, 1001 –1006.
  3. *Chemistry - A European Journal*, **2014**, *20(42)*, 13716-13721.
  4. *Advanced Synthesis & Catalysis*, **2013**, *355(10)*, 1997-2006.
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