

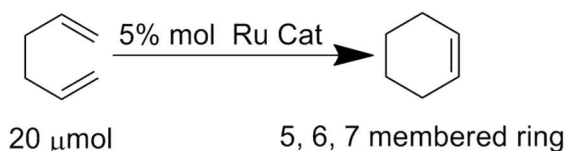
Technical Bulletin

KitAlysis™ High-Throughput Medium (5,6,7) Ring Closing Metathesis Reaction Screening Kit

Catalog Number KITALYSIS-RCM

Product Description

The KitAlysis™ High-Throughput Medium (5,6,7) Ring Closing Metathesis Reaction Screening Kit enables chemists to quickly and efficiently screen 5, 6, and 7-membered ring forming reactions of two intramolecular terminal alkenes.



Quick identification of optimal conditions allows faster scale-up of the desired synthetic transformation. All required chemicals come pre-weighed for ease of use.

Each Medium (5,6,7) Ring Closing Metathesis Reaction Screening Kit contains 2 individual screening sets. Each screening set has components to run 24 unique Ring Closing Metathesis reactions:

- 20 μ mol of RCM substrate (user supplied)
- 1 μ mol catalyst per vial; 6 in this system. 5 mol% per reaction
- 0.2 M solvent concentration (PhCl, Toluene, i-PrOAc, and Me-THF)
- TFA neat (Optional additive, see kit step-by-step user guide for details and guide on when to use.)

Access www.sigmaaldrich.com/kitalysis for detailed step-by-step Protocols and Scale-up Guide. The Protocols include an introductory video, instructions for the Labware, and work-up/internal standard addition procedures.

A downloadable spreadsheet for stock solution recipes for each screening set is available from the step-by-step Protocol. The spreadsheet provides:

- Calculations for substrate recipes based on the molecular weight of user supplied substrates
- Quick directions for experienced users
- Print button that allows you to take experimental recipes to the lab
- Contains all experimental information, which can easily be saved as a pdf file and appended to electronic laboratory notebooks

Components

- Two screening sets individually sealed under nitrogen in mylar bags. Each bag includes 24 glass microvials loaded with stir bars and pre-weighed catalysts (1 μ mol). See Figures 1 and 2
- Two New KitAlysis 24-Well Reaction Block Replacement Films
- Ampule boxes containing degassed, anhydrous liquids:
 - 4 \times 2 mL PhCl
 - 4 \times 2 mL PhMe (Toluene)
 - 4 \times 2 mL i-PrOAc
 - 4 \times 2 mL Me-THF
 - 2 \times 2 mL TFA

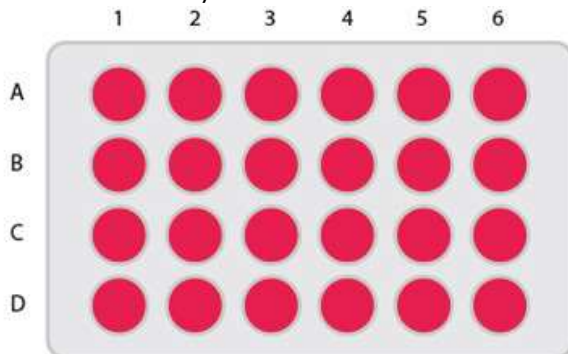
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- Four New stir bars for substrate stock solution vials
- Biphenyl Internal Standard (30 mg)

Figure 1.
Catalysts

| Description | Product No. | Vial |
|----------------------------------------|-------------|----------------|
| Grubbs Catalyst™ 2nd Generation | 569747 | A1, B1, C1, D1 |
| Hoveyda-Grubbs Catalyst 2nd Generation | 569755 | A2, B2, C2, D2 |
| Grubbs Catalyst C571 | 682373 | A3, B3, C3, D3 |
| Grubbs Catalyst C711 | 729345 | A4, B4, C4, D4 |
| Grubbs Catalyst 1st Generation | 579726 | A5, B5, C5, D5 |
| Grubbs Catalyst C827 | 682365 | A6, B6, C6, D6 |

Figure 2.
Positions of Catalysts



Reagents and Equipment Required but Not Provided

- Olefin metathesis substrate (user-supplied)
- Nitrogen (or argon): from hood line or tank
- Pipette (0–100 μ L) and tips
- 4 (1 mL) syringes with long needles
- Hot plate with stir capabilities
- Stir plate (or hot plate to be used without heat)
- HPLC vials, 96-well HPLC auto sampler block, or TLC plates.

Specially designed KitAlysis Labware allows screening set up in a hood without the use of a glove box.

- KitAlysis Benchtop Inertion Box (Catalog Number Z742064)
- KitAlysis 24-well Reaction Block and Screwdriver Set (Catalog Number Z742107)
- KitAlysis 24-well Reaction Block and Inertion Box Starter Set (Catalog Number Z742108)

Instructions for the Labware can be accessed in the Articles section of the website product display page for the kit.

Precautions and Disclaimer

For R&D Use Only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store the Ring Closing Metathesis/Cross Metathesis Reaction Screening Kit at 2–8 °C.

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