Core Synthesis and Analytical Services Facility

Newsletter – Spring-2013

- **Non-Profit** Institute funded by NIGMS-NIH-COBRE
- Part of **Centre for Protease Research**
- Professional on **Organic Synthesis**
- **Analytical Characterization** Service
- **Technical Consultation** in Organic Chemistry

Equipments in Service

Metrohm 831 Coulometer Karl-Fischer Titrator: determines very small amounts of water and gives an unmistakable presentation of the course of titration in form of a curve showing µg water against time.

New

MiniBlock XT: flexible easy-to-use reaction block designed for parallel synthesis and reaction screening.

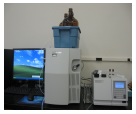
New

VAC Solvent Purification and Drying Unit: Obtains dry solvents without the hazards of distillation stills.

Buchi Kugelrohr Distillation/Oven: Distill relatively small volumes of liquids with high boiling points under greatly reduced pressure.

CEM Microwave Reactor: High frequency electric fields provide an alternate form of rapid heating. Accelerated reaction rates, milder reaction conditions and higher chemical yields are its popular features.

Teledyne Isco Combi-Flash: Fast and efficient separation of small molecules. Automated collection of fractions which are free of contamination.

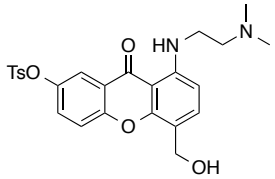


Waters HPLC: Normal/Reverse phase separation of organic molecules using a binary pump and UV detector. Can also be used for analysis of chiral compounds.

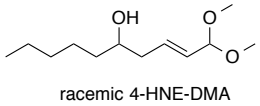
Shared Equipments with Dept. of Chemistry & Biochemistry

- Brucker Bio-TOF III High Resolution Mass Spectrometer
- Brucker Esquire 3000 + MS-MS Spectrometer
- Agilent GC-Mass Spectrometer
- Varian Inova 500 MHz NMR Spectrometer with triple axis gradients (actively shielded)
- Varian Inova 400 MHz NMR Spectrometer with Z axis gradients
- Varian Mercury 300 MHz NMR with Z-axis gradients

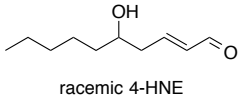
Selected Molecules Synthesized for Customers of CSASF



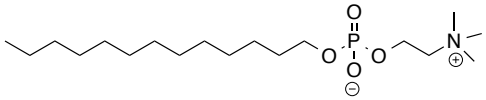
ACE2 Activator : XNT



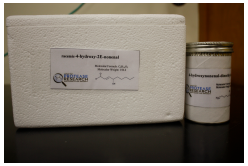
racemic 4-HNE-DMA



racemic 4-HNE



FOS-Chloline-13 Detergent



Selected Analytical Services for Customers of CSASF

- 1H NMR and 13C NMR for starch and resistant starch samples
- Soxhlet extraction and Fatty Acid Methyl Ester analysis (FAMES) for Sunflower seed samples
- GC-MS analysis for Folate content in cereals
- HRMS analysis for Folate content in cereals
- Loss-on-drying and moisture content
- Unknown sample analysis- characterization

Contact Information

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