

**TAL
TECH**

Margus Lopp 70

Keemia peegeldused elus ja elu peegeldused keemias

Riina Aav

11. September 2019

1996 – Tallinna Tehnikaülikool,
Orgaanilise keemia professori konkurss

Margus Lopp – *Venia legendi* loeng

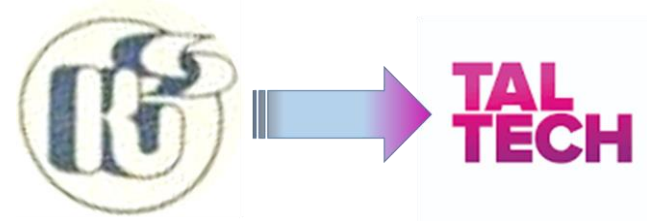
... käeline orgaaniline keemia

Teaduste Akadeemia Keemia Instituut

– Marguse grupi laborid Akadeemia tee 15 ja 15/1

Mitmed sõltumatud uurimisteemad

- Uute reaktsioonide välja töötamine
- Asümmeetriline oksüdatsioon
- Tsüklopantaani derivaatide süntees
- Bioaktiivsete ühendite süntees - prostaglandiinid
- Polümeersete värvide UV stabiilsuse parandajad
- Dendirmeerid?
- *jne*
- *Sipnn-off* ettevõtte – Tensiid



1997 (juuni) –
minu magistrikaitsmise
järgne meeleolukas
õhtu keemiainstituudi
kolleegidega

Teaduste Akadeemia Keemia Instituut → Tallinna Tehnikaülikooli keemiainstituut

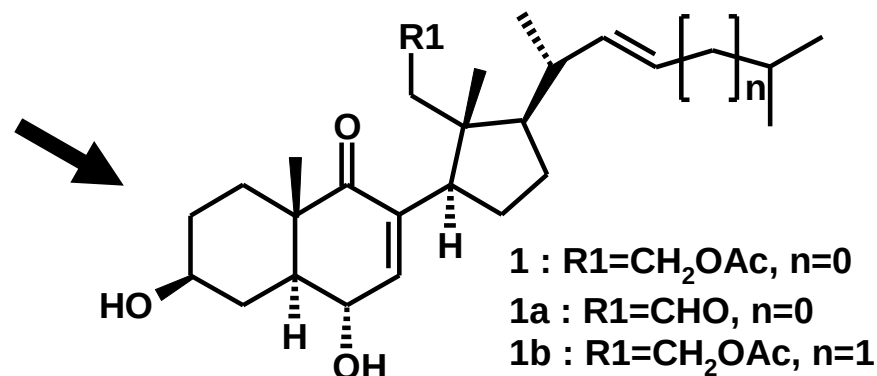
1997 (september) – Doktorantuuri uurimisteema –
9,11-sekosterooli täiskeemiline süntees



Valge mere korall
Gersemia fruticosa

1 kg

Tsütotoksiline ja antiproliferatiivne

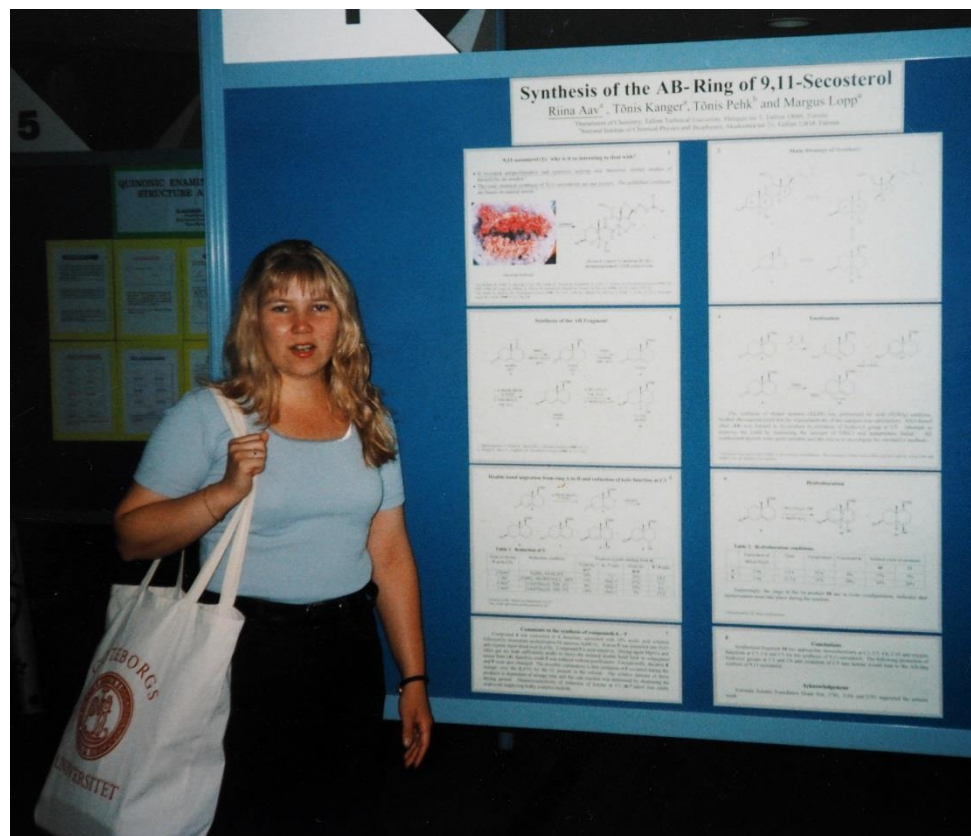


9,11-sekosteroolid

~1 mg (0,0001%)

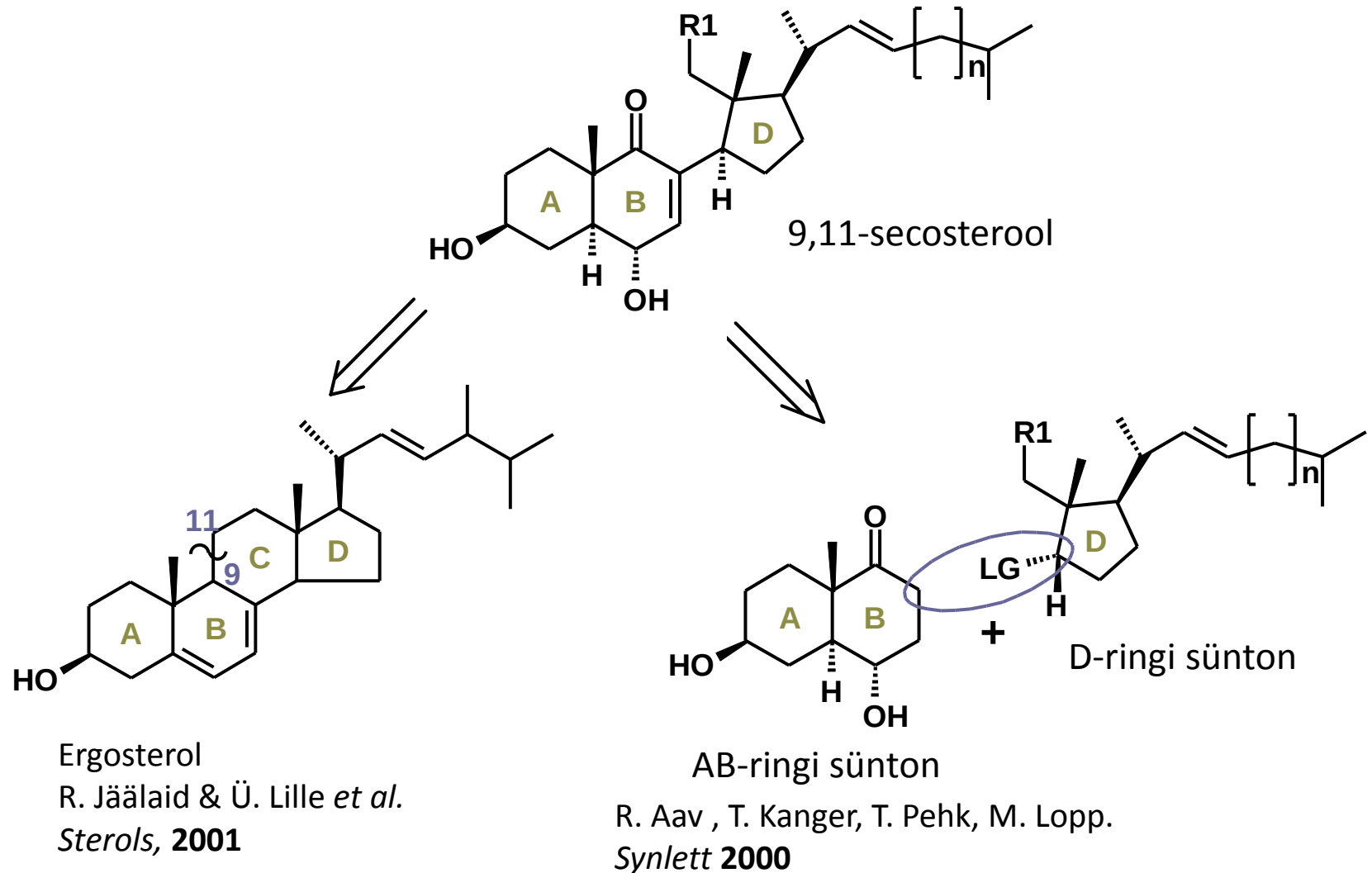
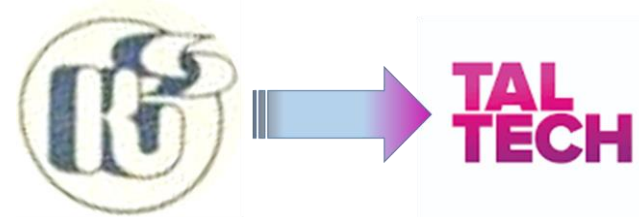


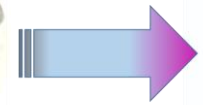
1999 – European Symposium on Organic Chemistry, Göteborg



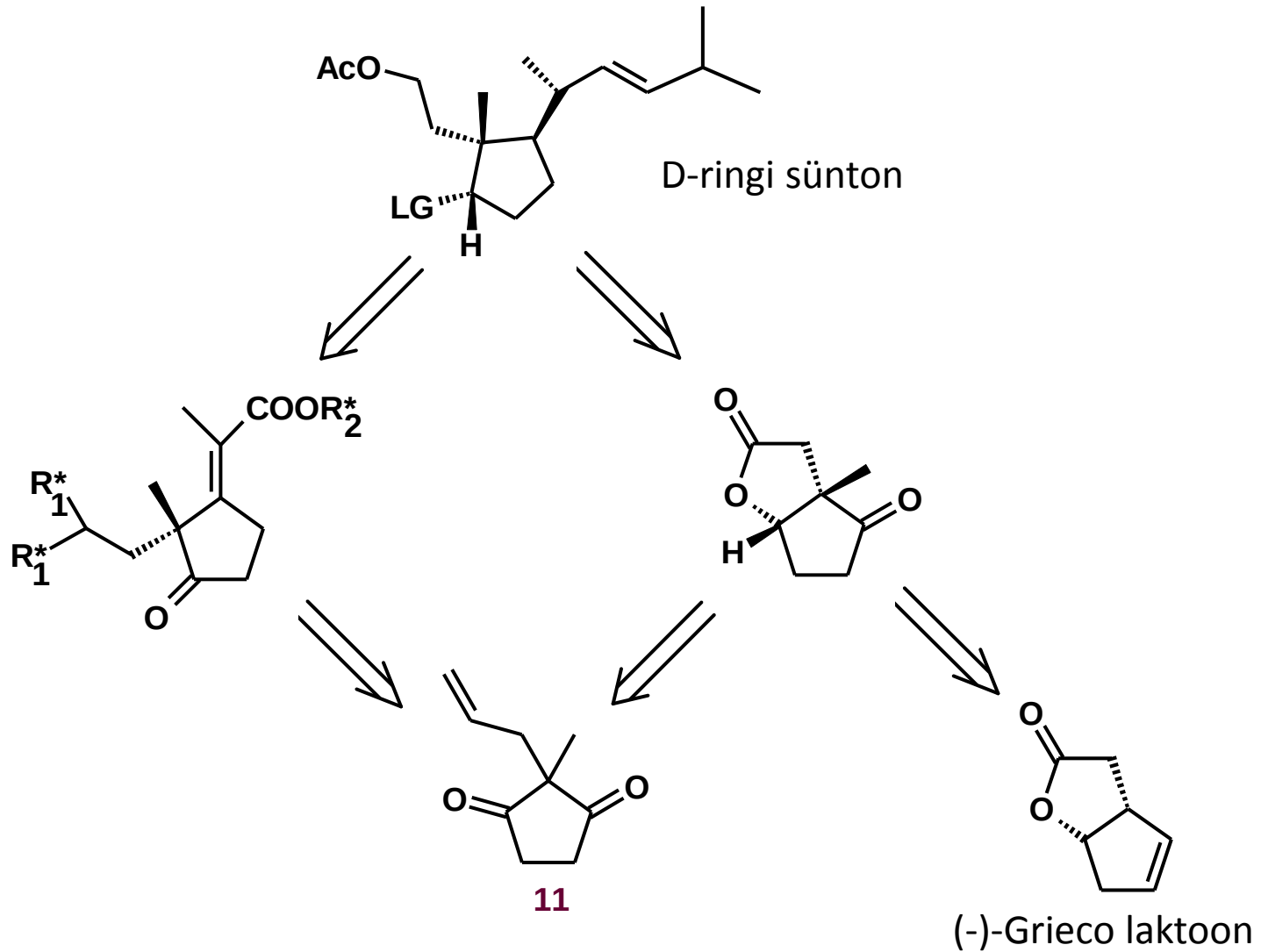
2000 – Genfi Ülikool (prof Alexander Alexakise labor)

9,11-sekosterooli sünteesiteed





D-ringi sünteesiteed kuni doktoritöö katsmiseni 2005



D-ringi sünteesiteed jätk

Balticum Organicum Syntheticum 2008



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1918

TALLINNA TEHNIKAÜLIKOOL

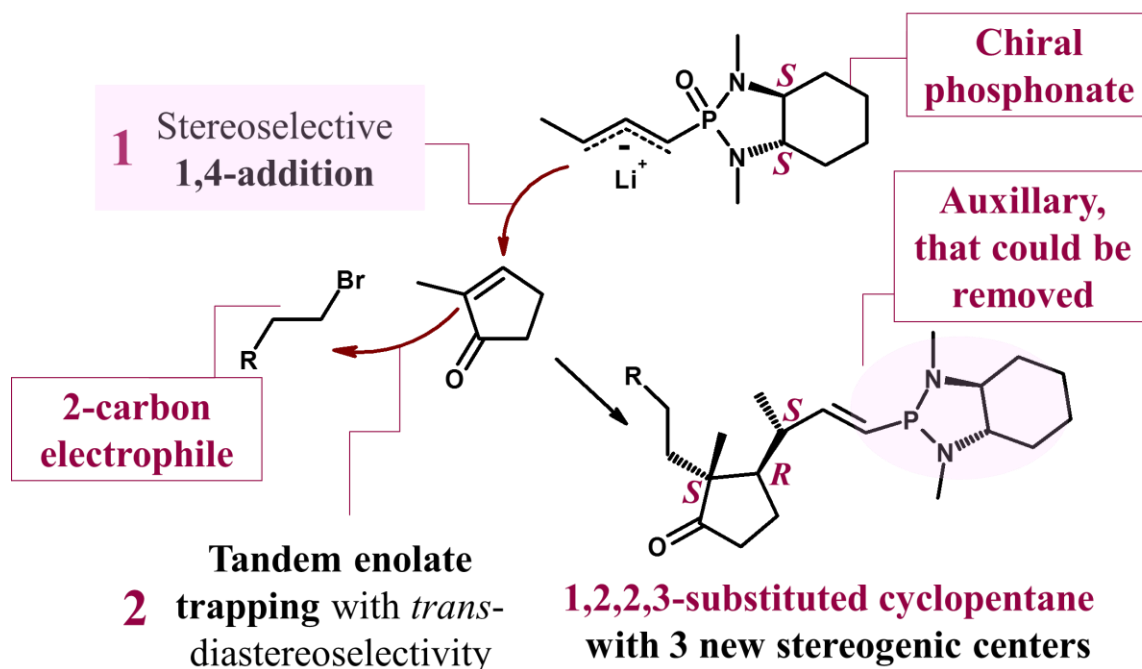
TALLINN UNIVERSITY OF TECHNOLOGY



Synthesis toward 9,11-Secosterol D-ring

Riina Aav, Tõnis Kanger, Margus Lopp

Faculty of Science, Department of Chemistry, Tallinn University of Technology, Estonia





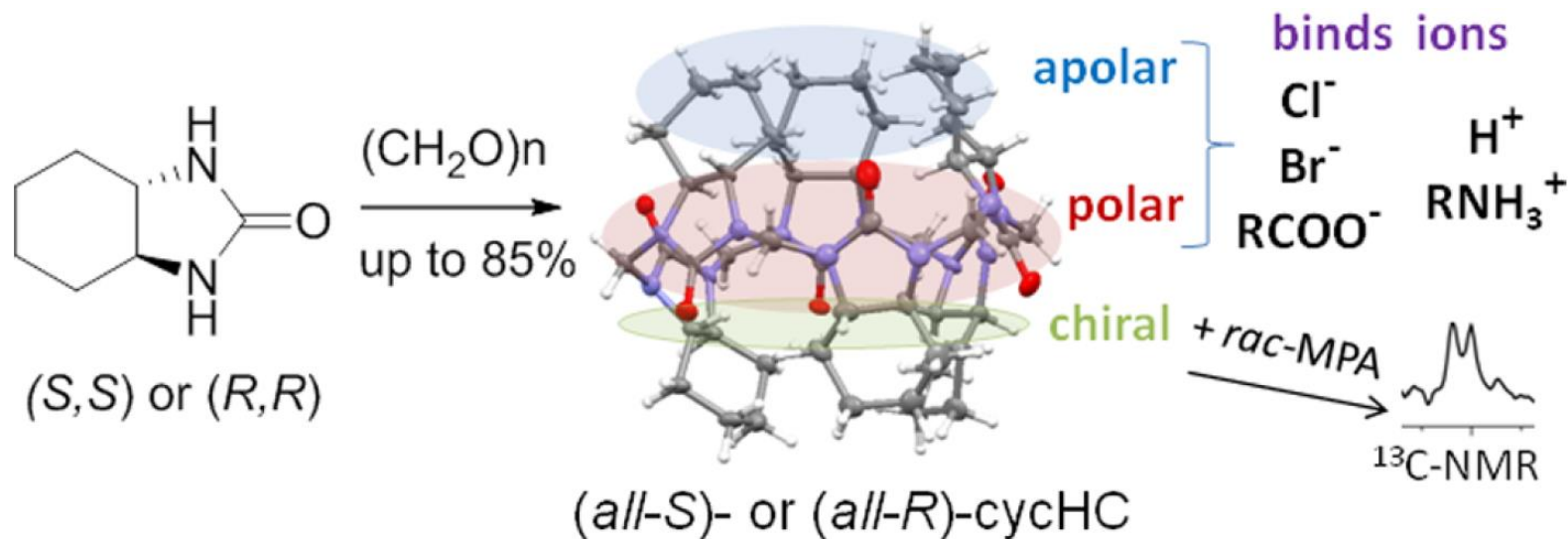
Teadushuvi jätk – efektiivsed sünteesiteed käeliste orgaaniliste ühenditeni

ORGANIC
LETTERS

2013
Vol. 15, No. 14
3786–3789

New Chiral Cyclohexylhemicucurbit[6]uril

Riina Aav,^{*,†} Elena Shmatova,[†] Indrek Reile,[‡] Maria Borissova,[†] Filip Topić,[§] and Kari Rissanen[§]

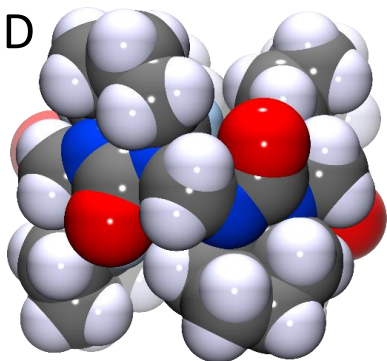


Hemikukurbituriilide perekond - süntees



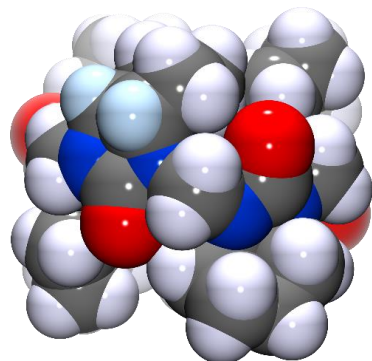
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XRD

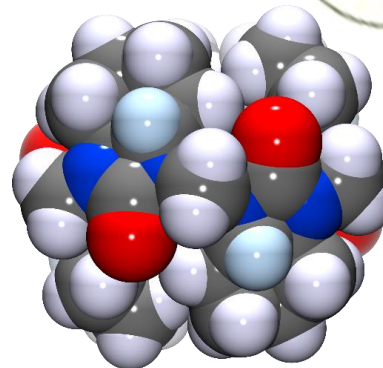


(*R,S*)-cycHC[6]

Chem. Commun **2019**



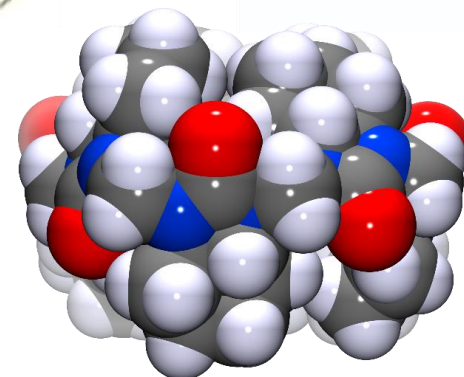
inverted-(R,S)-cycHC[6]



(*S,S*)-cycHC[6]

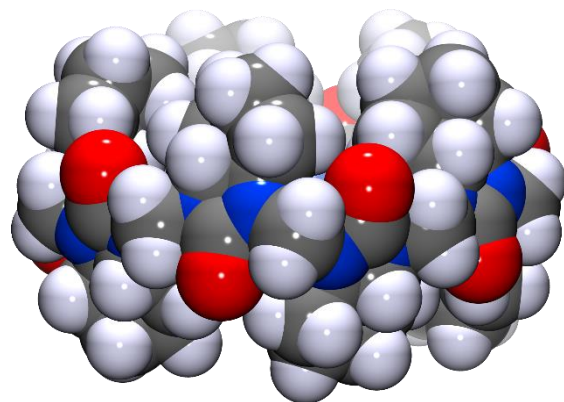
Organic Letters **2013**

PhysChemChemPhys **2014**



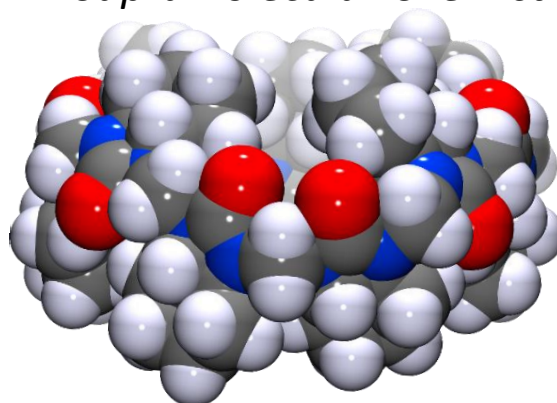
(*R,R*)-cycHC[8]

Chem. Commun **2015**



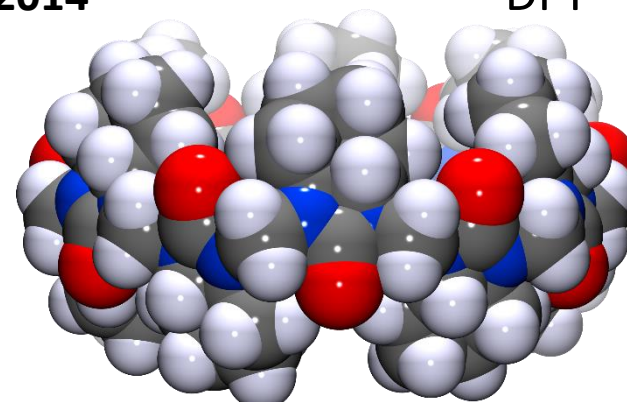
(*R,R*)-cycHC[10]

10/9/2019



(*R,R*)-cycHC[11]

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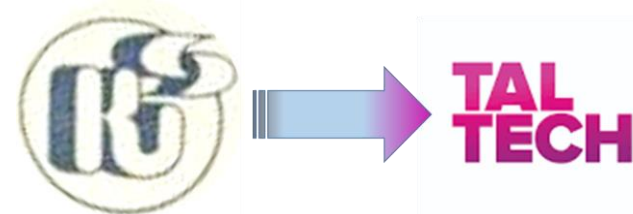
(*R,R*)-cycHC[12]

11

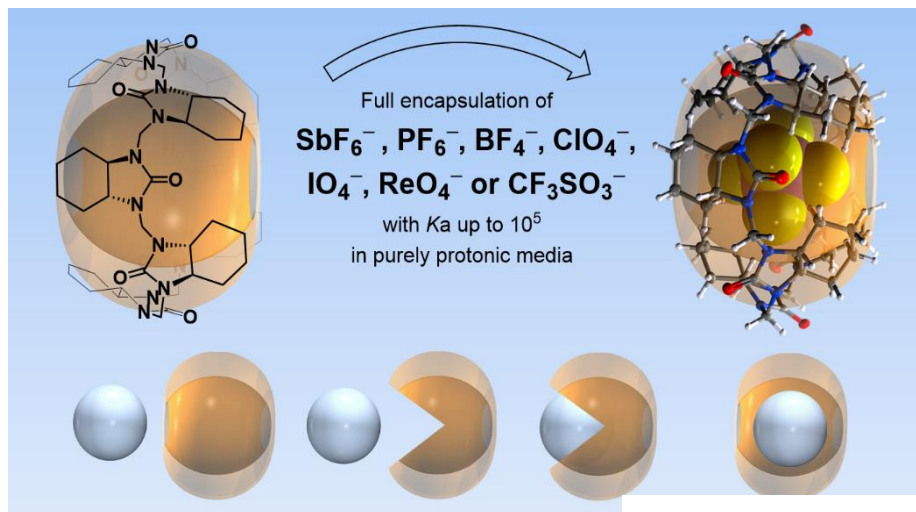
Supramolecular Chemistry **2014**

DFT

Orgaanilisest sünteesist supramolekulaarsete rakenduste suunas



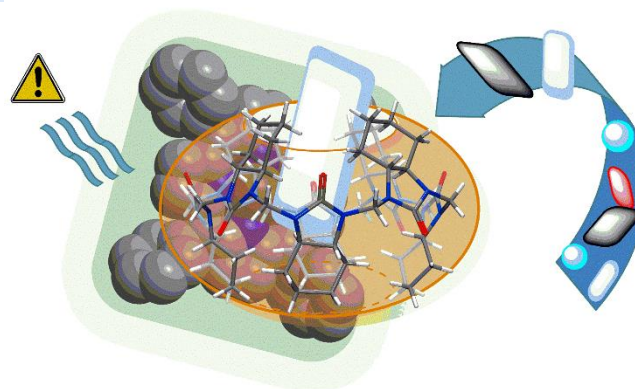
Mittekovalentsete interaktsioonide läbi uute käeliste ühenditeni.



Chemical Science **2017**

A Journal of the German Chemical Society
Angewandte
 International Edition
Chemie
 www.angewandte.org
 2019–58/19

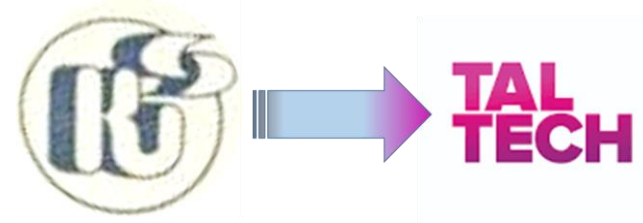
Angewandte Chemie Int.Ed. **2019**



curbiturils ...

first example of supramolecular templating and selective formation of red ring molecules in a solvent-free, mechanochemical reaction environment. Communication on page 6270 ff. T. Frick, R. Aue, and co-workers show schematically prepared oligomers spontaneously and selectively reorganize into six- or eight-membered macrocycles, depending on the chosen ligand.

WILEY-VCH



Aitähh, Margus ja PALJU ÕNNE!