Tetrahedron 65 (2009) 7317–7331

Contents lists available at ScienceDirect

Tetrahedron

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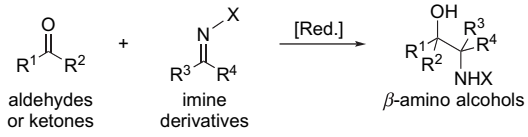
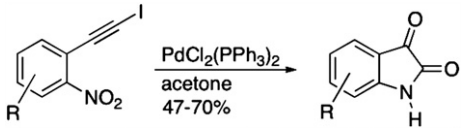
Tetrahedron Vol. 65, Issue 36, 2009

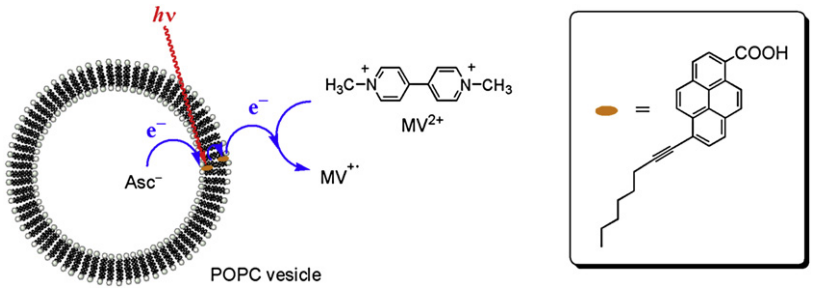
Contents

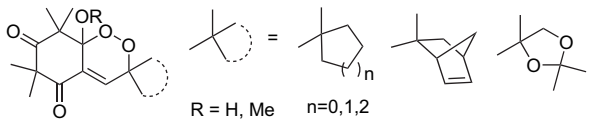
REPORT

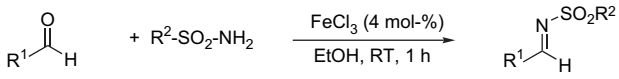


ARTICLES

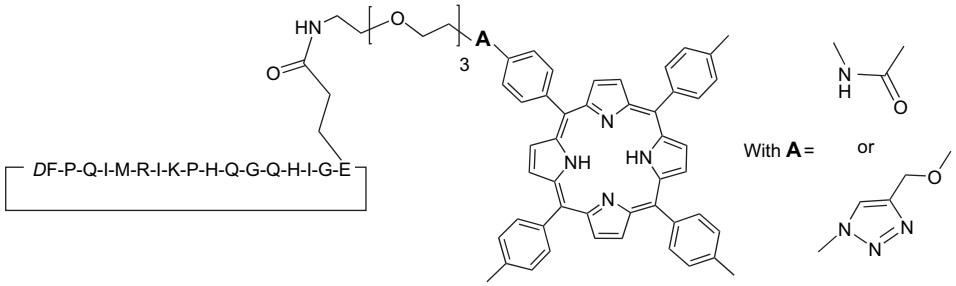


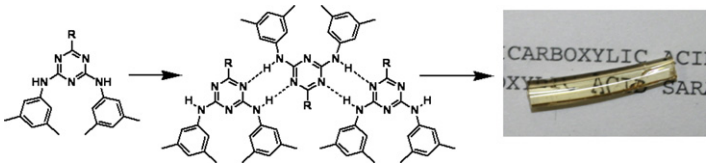


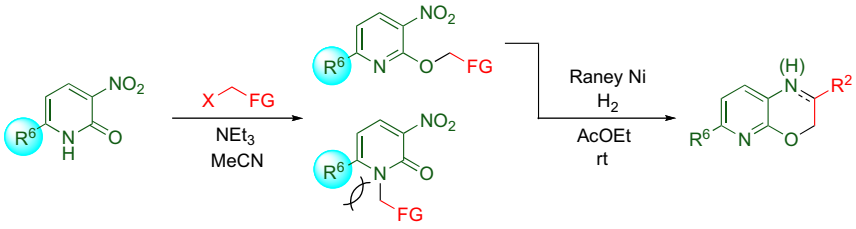


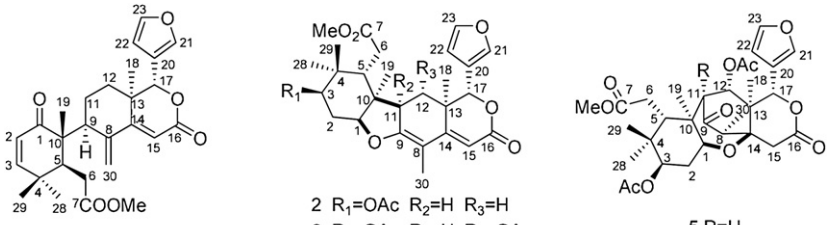


A convenient $FeCl_3$-catalyzed synthesis of *N*-sulfonylimines via the condensation of aldehydes with *N*-sulfonylamides in mild and neutral conditions (in ethanol at room temperature) is reported. This procedure constitutes the first iron-catalyzed synthesis of *N*-sulfonylimines and is adapted to the condensation of both aromatic and aliphatic aldehydes.





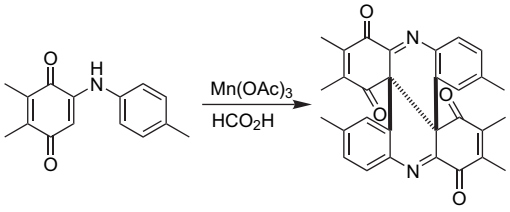


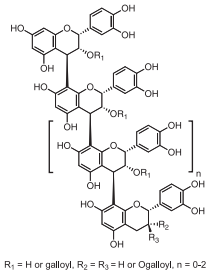


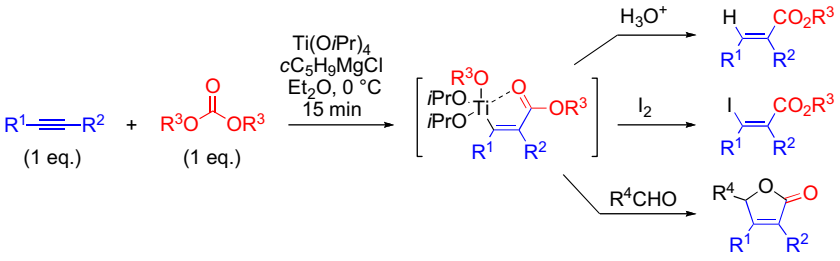
1

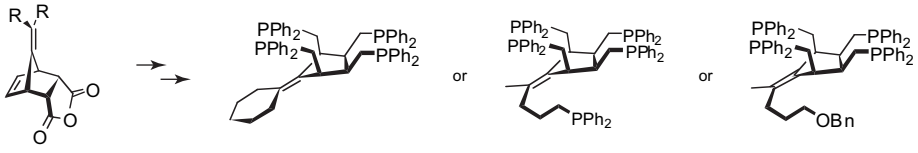
2 R_1=OAc R_2=H R_3=H
3 R_1=OAc R_2=H R_3=OAc
3a R_1=OH R_2=H R_3=OAc
4 R_1=OAc R_2=OH R_3=OAc

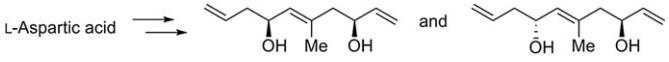
5 R=H
6 R=OH

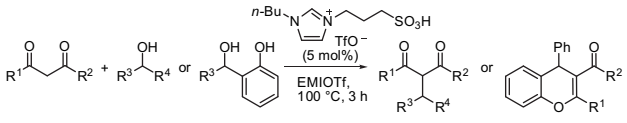


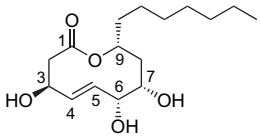


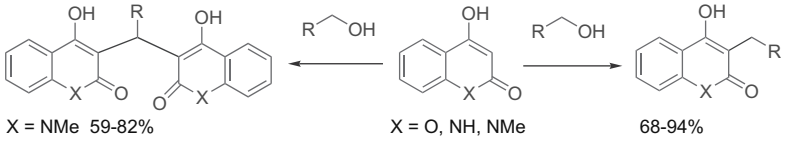


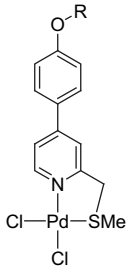


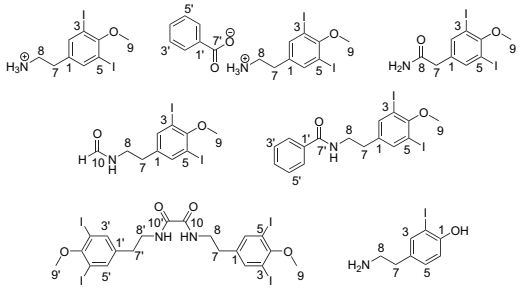


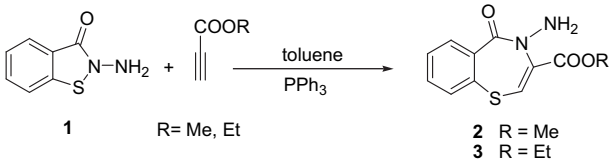


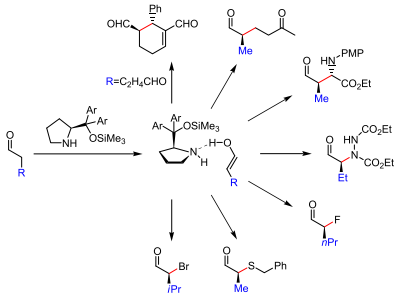


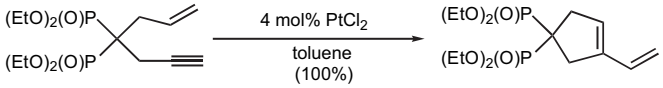




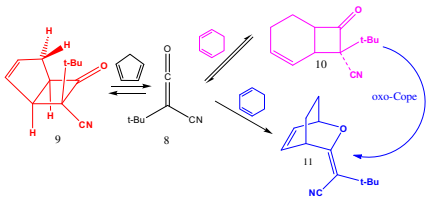




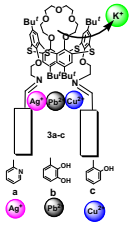




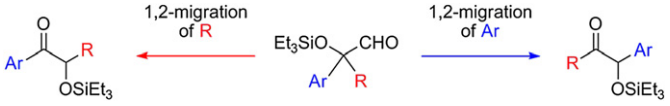
A biphosphonate enyne undergoes a range of transition metal-catalysed cyclisations that give structurally varied products; monitoring the cyclisations by ^{31}P NMR spectroscopy led to the observation of reaction intermediates.

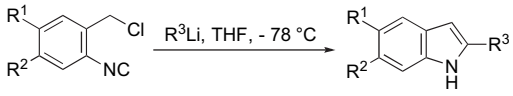


TBCK reacts reversibly with 1,3-cyclopentadiene to yield cyclobutanone **9** only. At low temperature (−20 °C) TBCK and 1,3-cyclohexadiene afford cyclobutanone **10** (ca. 75%) and the ether **11** (ca. 25%). The preparation of ether **11** is increased by the oxo-Cope thermal rearrangement of cyclobutanone **10**. Ether **11** structure is supported by X-ray diffraction results. Only two transition states have been identified computationally (mPWB95/6-31+G(d,p)), one leading to cyclobutanone **10** and the other to oxo-Cope rearrangement to form ether **11**.

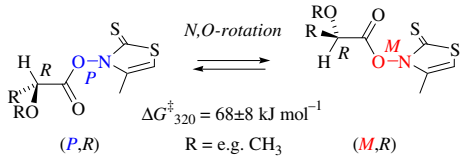


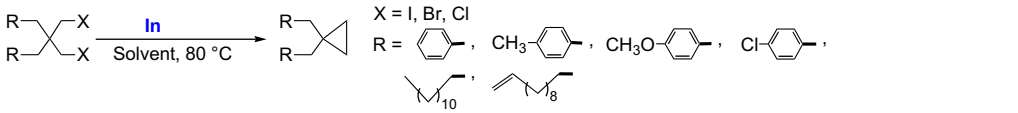
Three new ditopic receptors **3a**–**c** based on thiacalix[4]arene of 1,3 *alternate* conformation possessing two different complexation sites have been designed and synthesized. Compounds **3a**–**c** behave as ditopic receptors for Ag^{+}/K^{+}, Pb^{2+}/K^{+}, and Cu^{2+}/K^{+} ions, respectively. The formation of **3a**·Ag^{+}/**3b**·Pb^{2+}/**3c**·Cu^{2+} complex triggers the decomplexation of K^{+} ion from crown moiety and acts as a gateway, which regulates the binding of alkali metal to crown moiety. Thus, allosteric binding between metal ions '*switch off*' the recognition ability of crown ether ring.

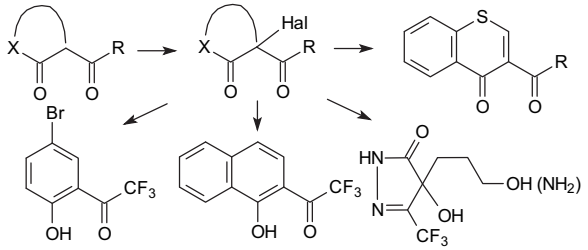


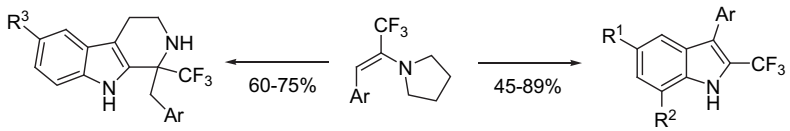


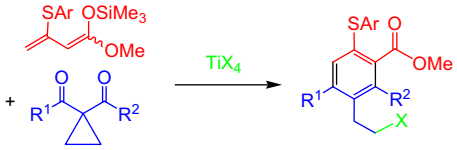
R^1 = H, Me; R^2 = H, Cl; R^3 = alkyl, aryl 49–72%

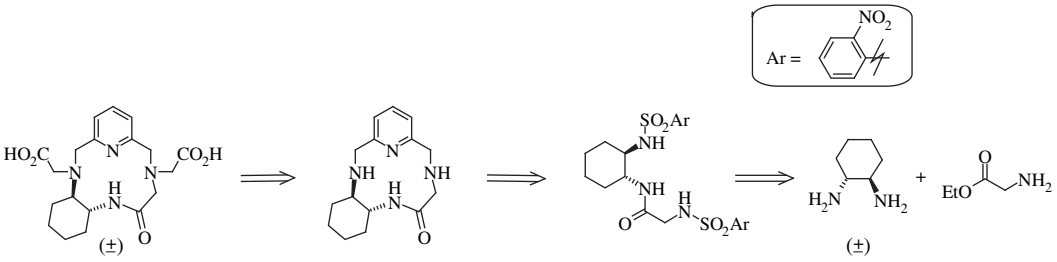


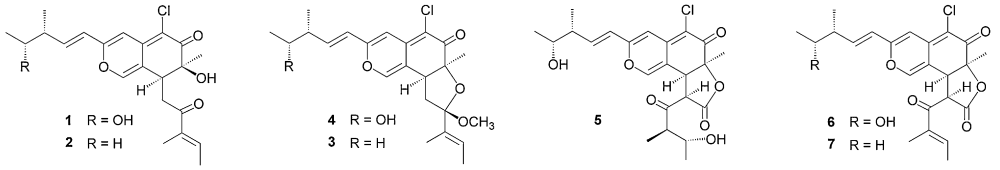


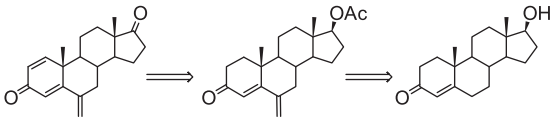


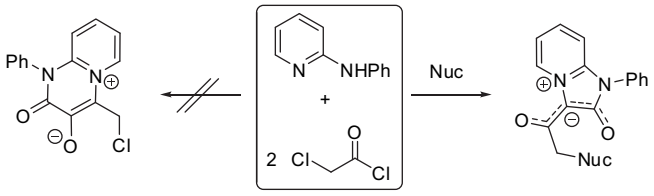


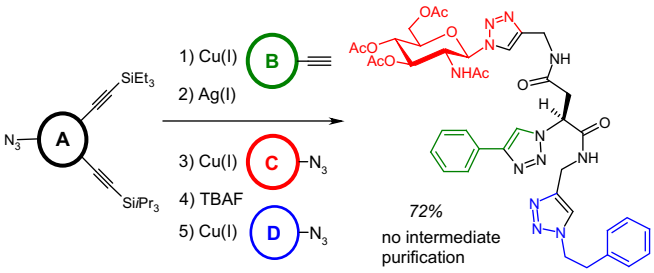


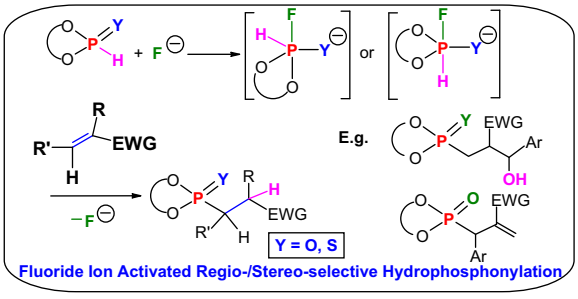


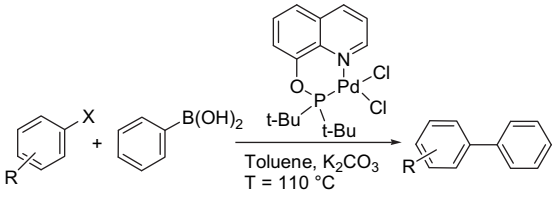




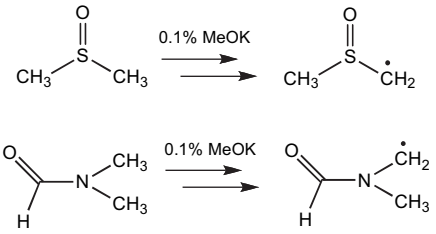


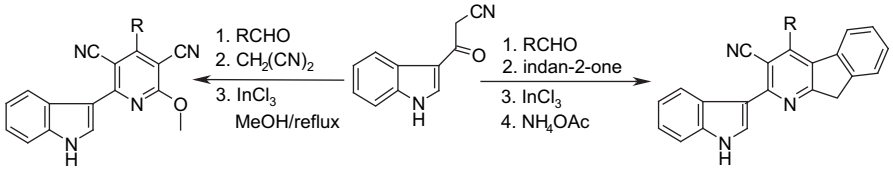


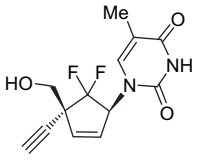


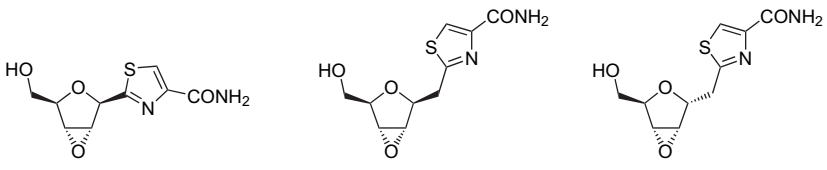


X = Br : TOF up to 200,000 h^{-1}; X = Cl : TOF up to 1,900 h^{-1}



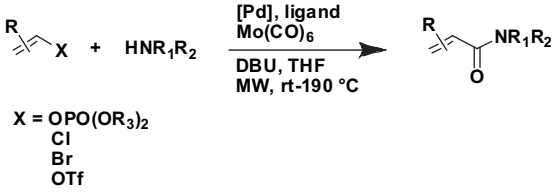


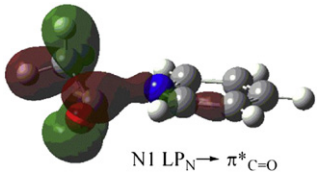




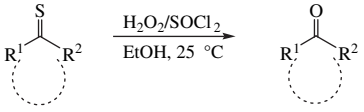
2 **3** **25**

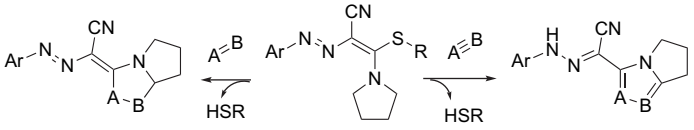
Novel tiazofurin derivatives, 2′,3′-anhydro-tiazofurin (**2**) and the corresponding β-(**3**) and α-(**25**) homo-C-nucleosides, have been synthesized and evaluated for their *in vitro* antitumour activity.

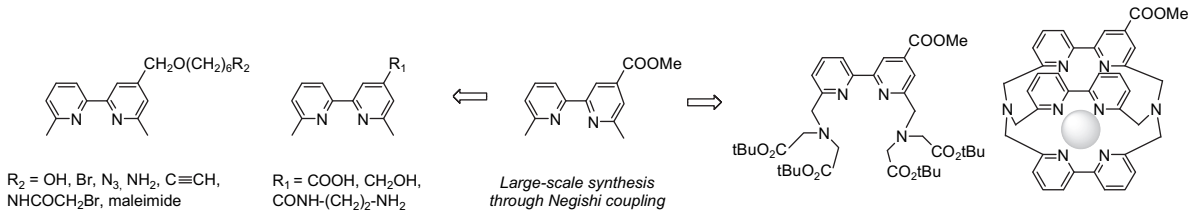


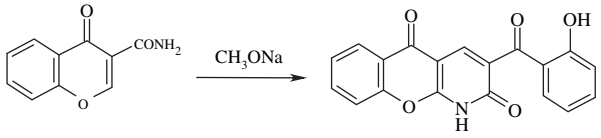


Acetyl radical reacts as a nucleophilic radical with pyridinium ions, and as an electrophilic radical with pyridine through a mechanism involving multiorbital interactions. Electron-withdrawing groups on the pyridinium ring accelerates these reactions and is likely to be responsible for the chemistry observed for the tuberculosis drug *isoniazid*.

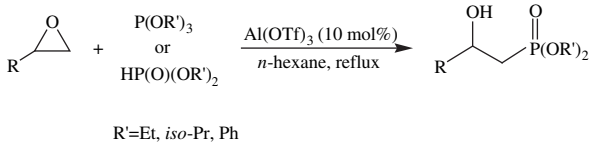




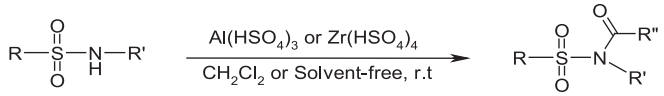




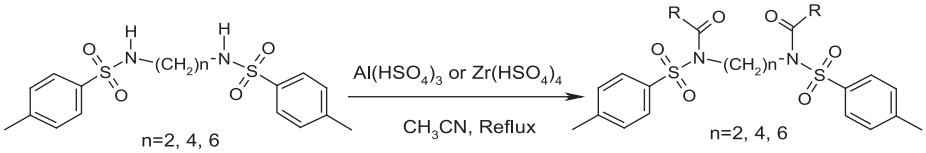
The action of bases (NH_4OH, NaOH, RNH_2 and sodium methoxide) on chromone-3-carboxamide was studied.

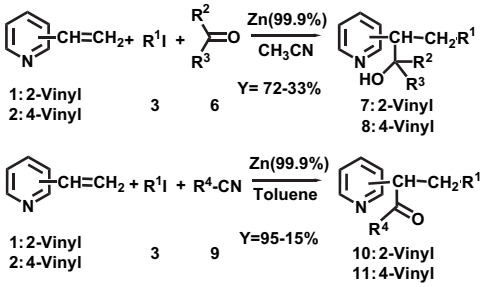


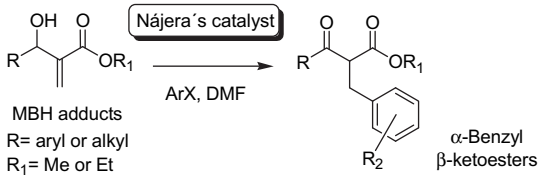
R'=Et, *iso*-Pr, Ph

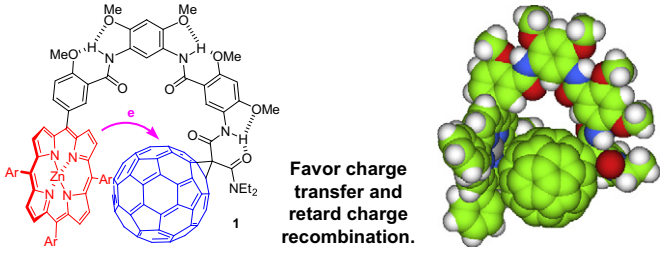


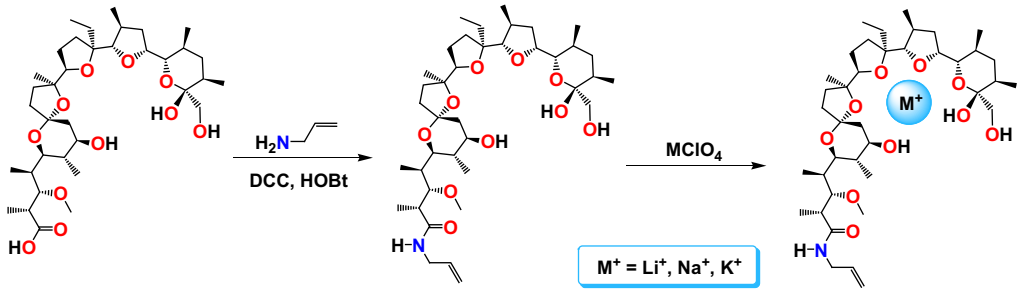
R=Ph, p-Tol, Me R'= H, n-Pr, n-Bu, Ph R"= Me, Et, n-Pr, i-Pr, n-Bu,n-Pent

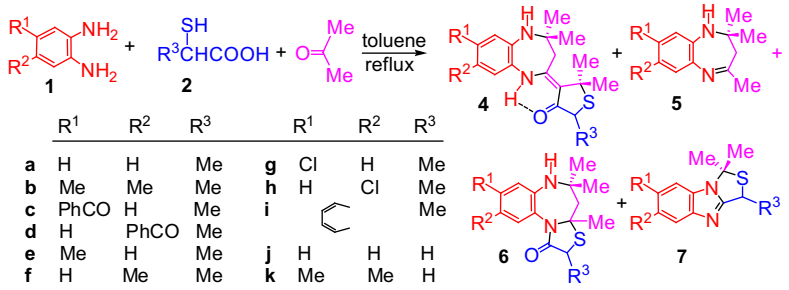




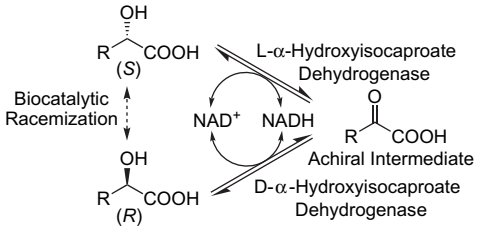








	R^1	R^2	R^3		R^1	R^2	R^3
a	H	H	Me	**g**	Cl	H	Me
b	Me	Me	Me	**h**	H	Cl	Me
c	PhCO	H	Me	**i**			Me
d	H	PhCO	Me				
e	Me	H	Me	**j**	H	H	H
f	H	Me	Me	**k**	Me	Me	H



OTHER CONTENT

*Corresponding author
Supplementary data available via ScienceDirect

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ISSN 0040-4020