

祝介平三组分反应

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Xin Wang

Introduction of Jieping Zhu



Education

1984, B.Sc., Hanzhou Normal University, P. R. China

1987, M.Sc., Lanzhou University (Prof. Y.-L. Li), P. R. China

1991, Ph.D., Université Paris XI (Prof. H.-P. Husson and Prof. J.-C. Quirion), France

1991-1992, Post-doct., Texas A & M University (Prof. Sir D. H. R. Barton), USA

Academic Positions

1992-2000, “Chargé de Recherche” at ICSN, CNRS, France

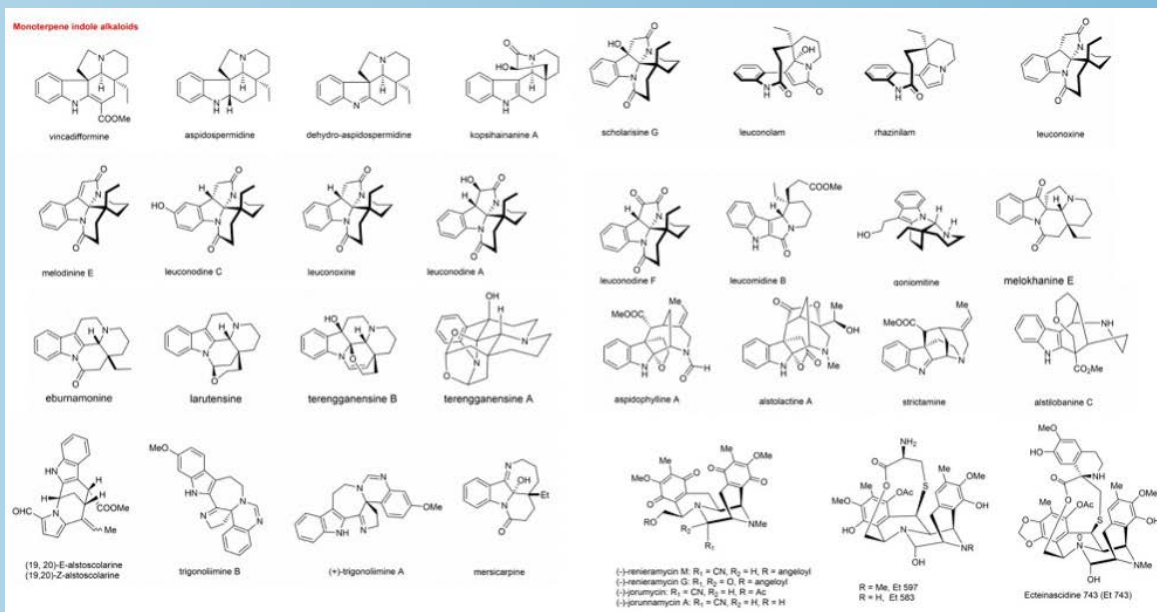
2000-2006, Director of Research, 2nd class, at ICSN CNRS, France

2006-2010, Director of Research, 1st class at ICSN, CNRS, France

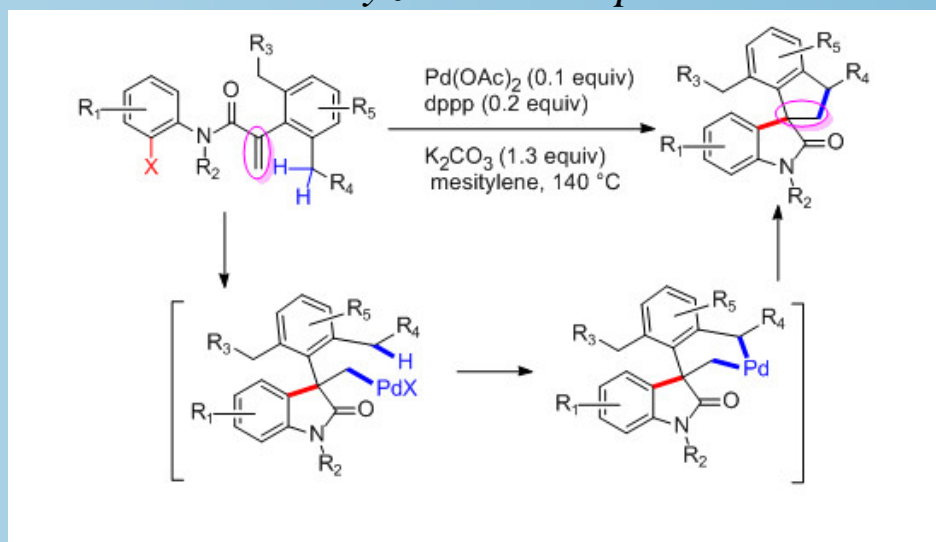
2010-present, Professor, ISIC, EPFL

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Natural products total synthesis

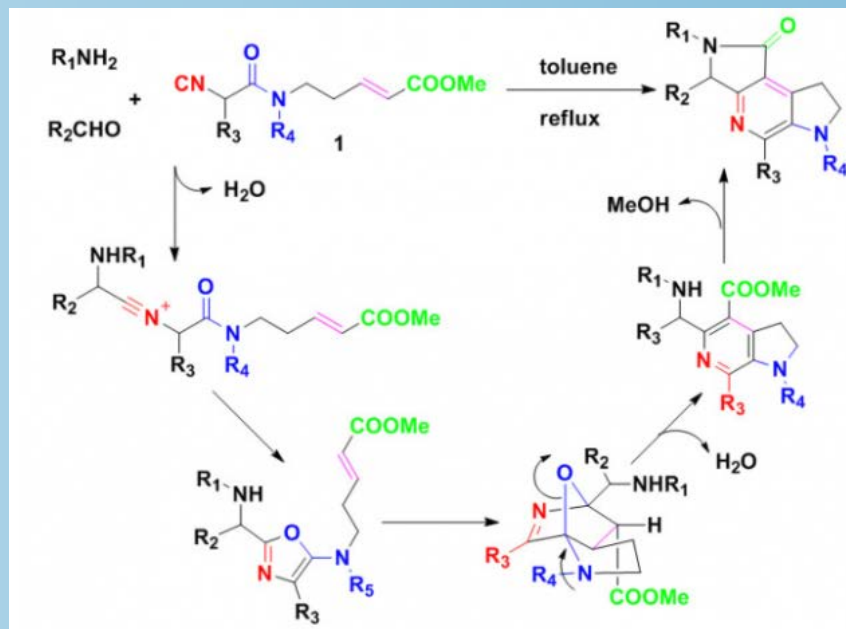


Metal catalyzed domino process



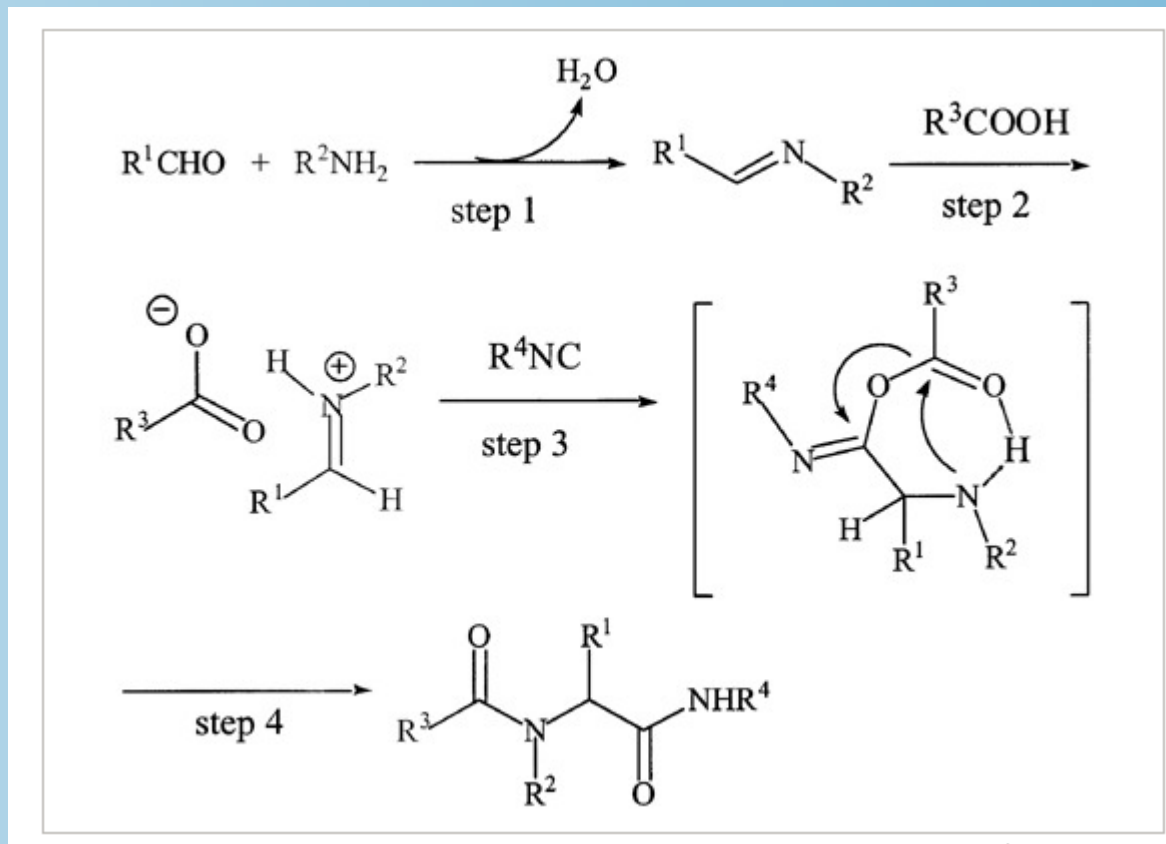
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Multicomponent reactions



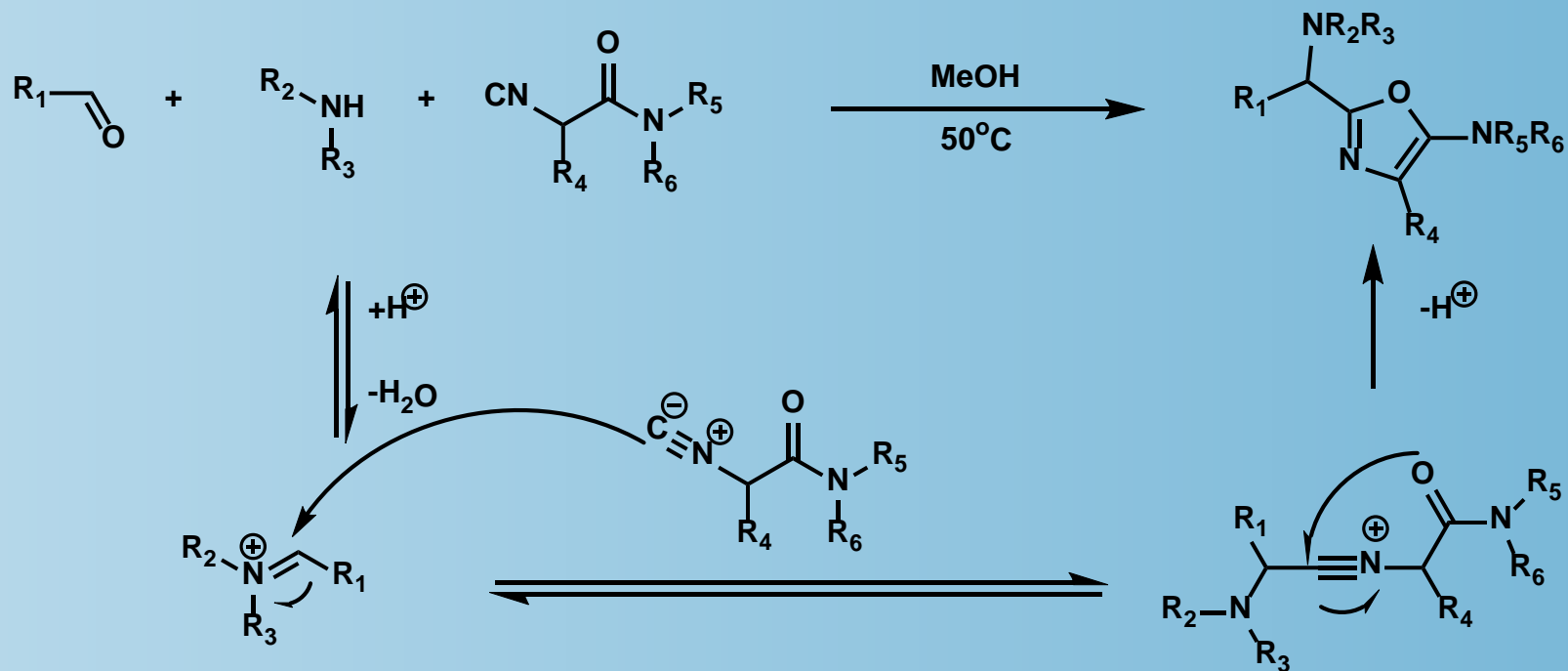
Multicomponent reaction (MCR) is a process in which three or more reactants are combined in a single chemical operation to produce a compound that incorporates substantial portions of all starting materials.

Ugi 4-CR Reaction



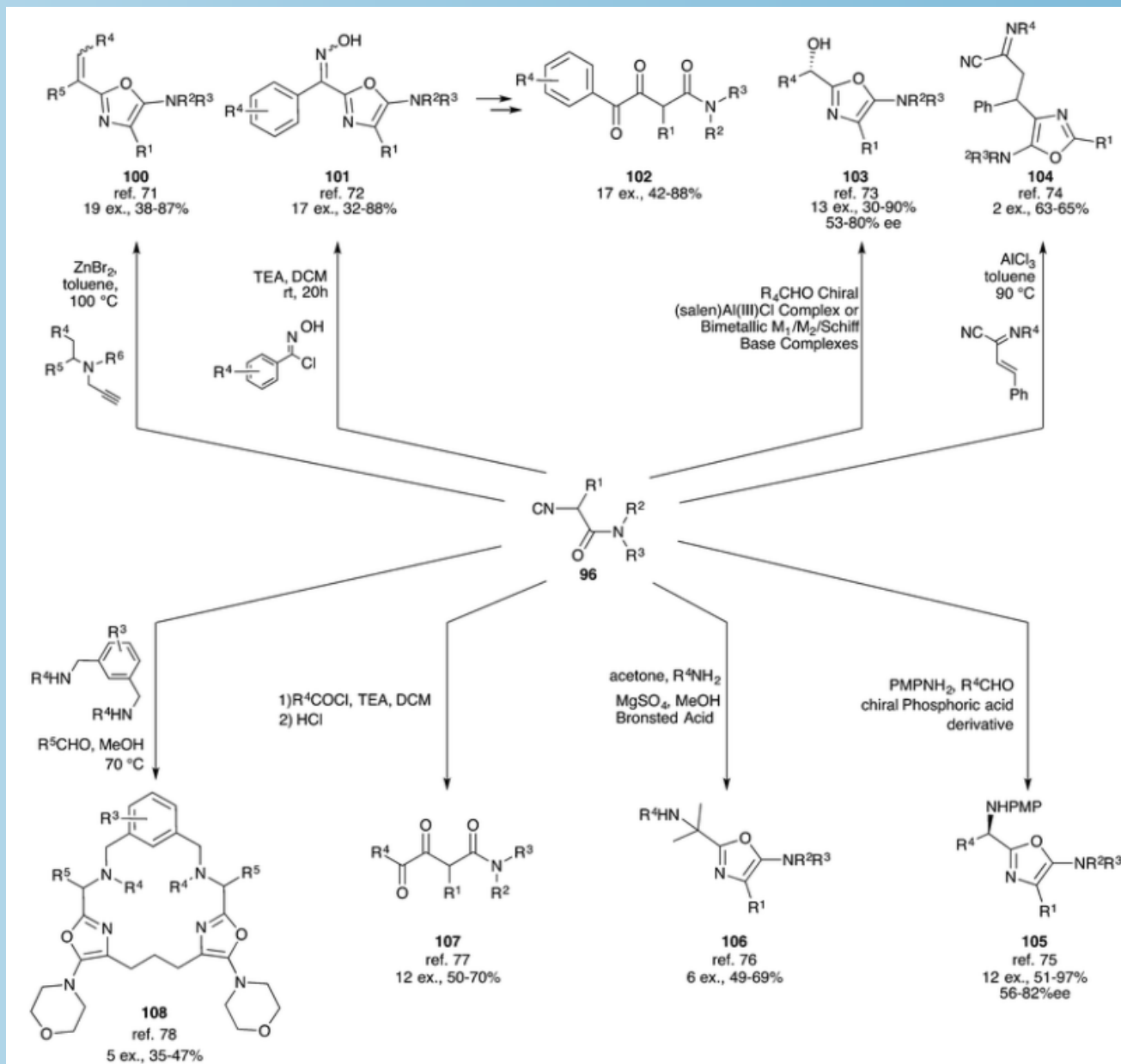
A Ugi 4CR converts an aldehyde, an amine, an acid, and an isocyanide into an α -acetamidoamide in one step, with good to excellent yields.

Zhu 3-CR Reaction



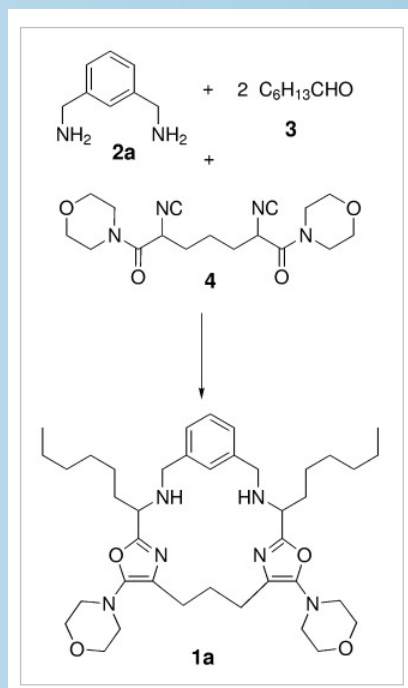
祝介平三组分反应指醛，胺和2-取代-2-异腈乙酰胺合成5-氨基噁唑的反应。

Application



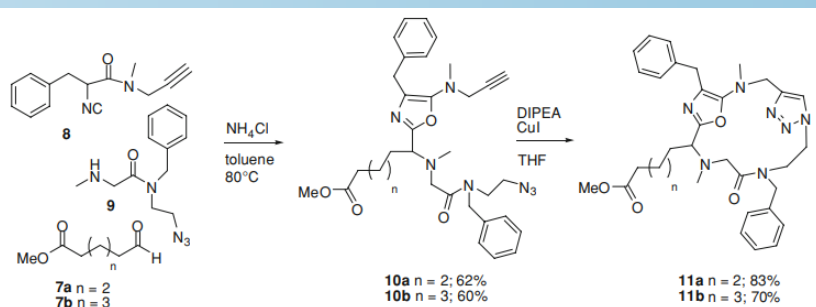
Application

four-component (ABC2) synthesis



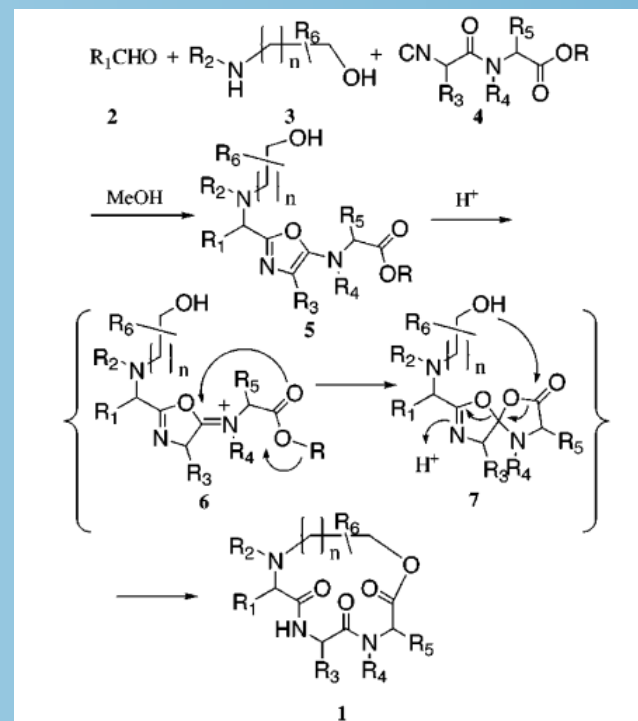
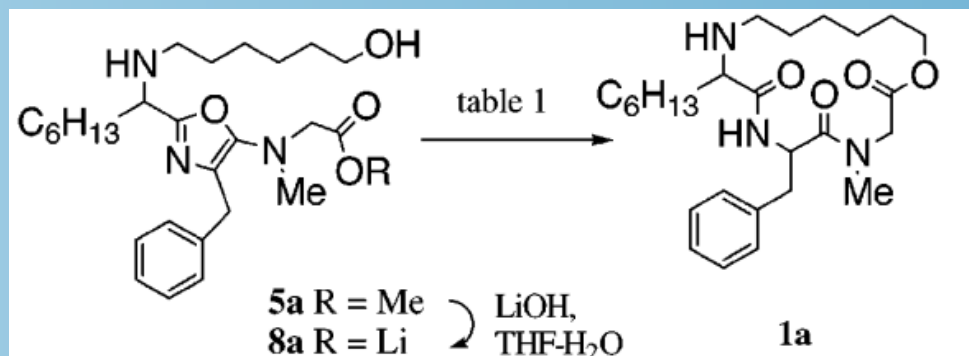
Angew. Chem. 2003, 42, 811-814

HDAC inhibitor mimetics



Mol. Divers., 2010, 14, 109-121

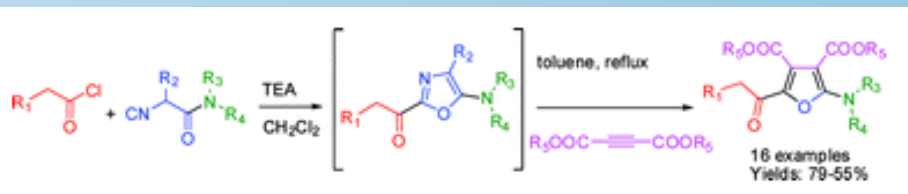
Synthesis of Macrocyclodepsipeptide



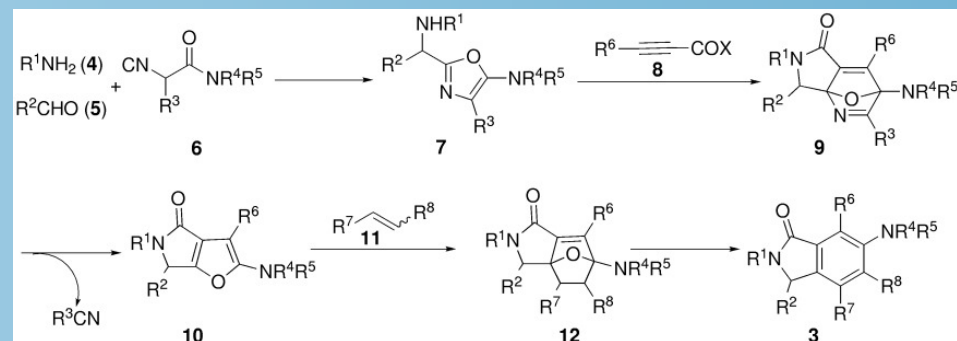
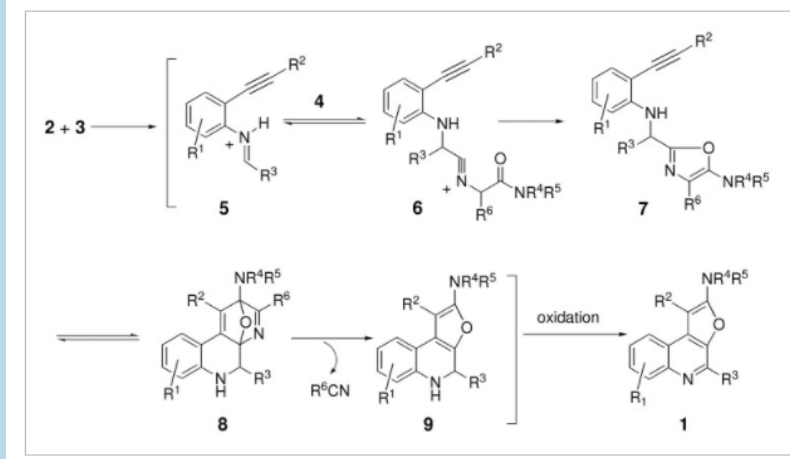
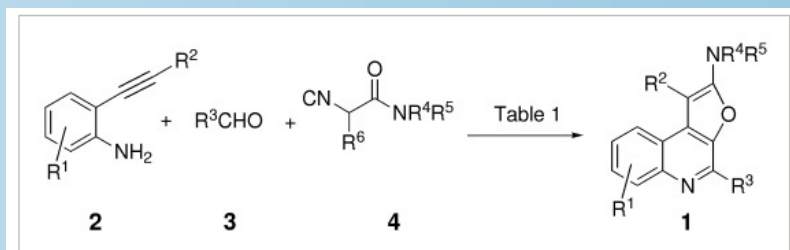
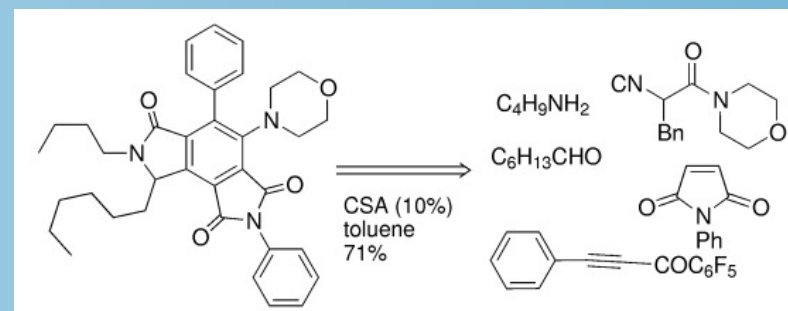
J. Am. Chem. Soc. 2001, 123, 6700-6701

Application

Diels-Alder reaction



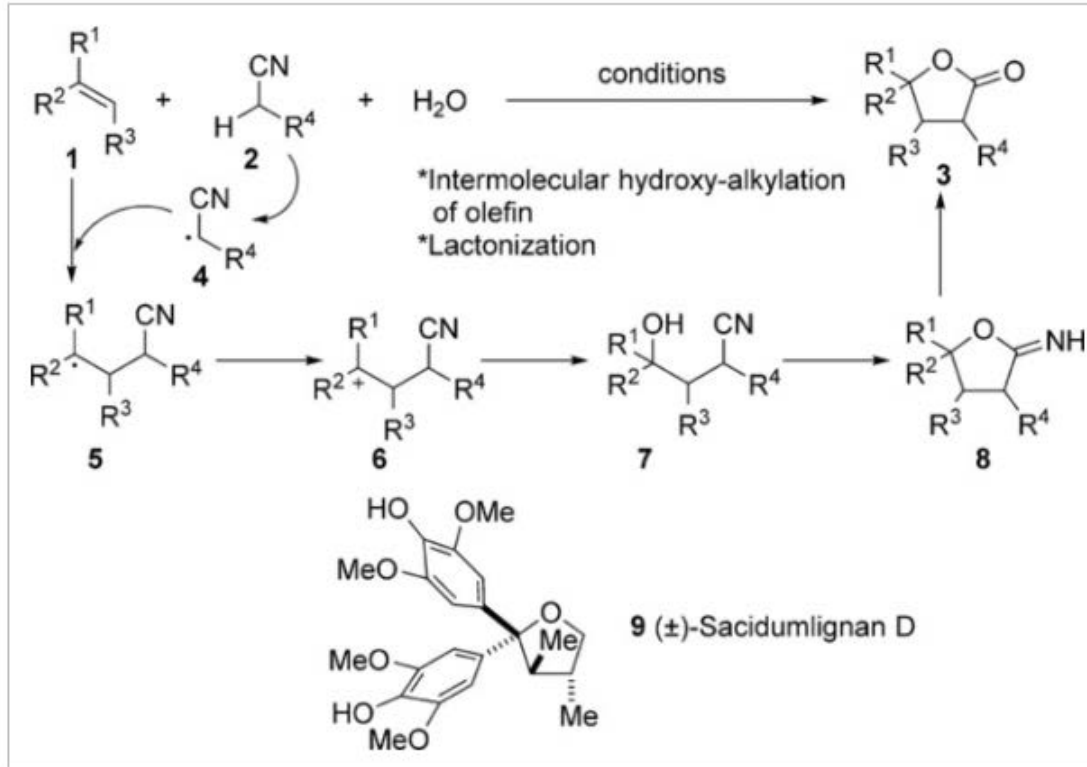
Org.biomol.chem.2011,9,1627-1631



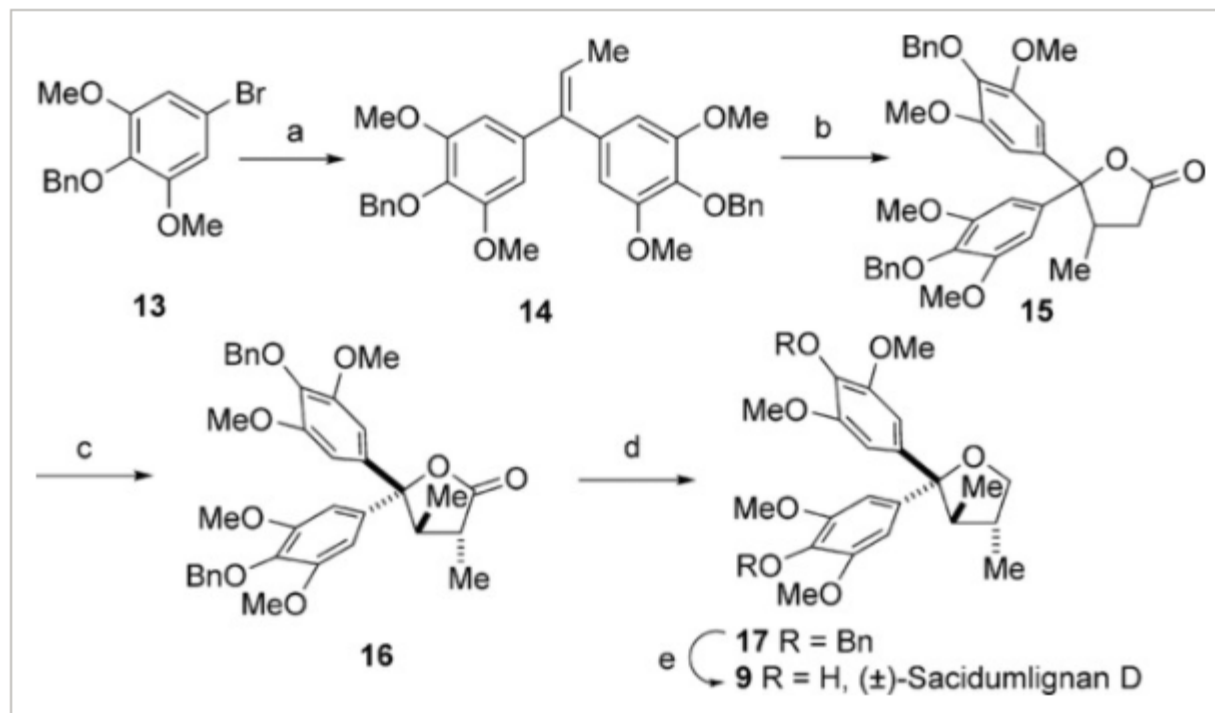
Angew. Chem. Int. Ed. 2002, 41,4291-4294

Angew. Chem. Int. Ed. 2002, 41,3633-3635

Application



Application



Scheme 5

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Total synthesis of (±)-sacidumlignan D (**9**): a) *n*BuLi, EtCOCl, THF, 60 °C, then PTSA, toluene, reflux, 56 %; b) Cu(BF₄)₂·6 H₂O (0.2 equiv), Bipy (0.6 equiv), DBU (0.15 equiv), H₂O (30 equiv), Ca(OTf)₂ (0.2 equiv), DTBP (2.5 equiv), 140 °C, in MeCN (0.025 M), 3.5 h; then 1.0 N HCl, 80 °C, 45 min, 60 %; c) LHMDS (5 equiv), MeOTf (4 equiv), THF, -78 °C, 12 h, 89 %; d) LiAlH₄, then TFA, CH₂Cl₂, 91 % (2 steps); e) H₂, Pd/C, MeOH/EtOAc (1:1), 93 %. LHMDS=lithium hexamethyldisilazide, PTSA=*p*-toluene sulfonic acid, TFA=trifluoroacetic acid, THF=tetrahydrofuran.



Thank you