

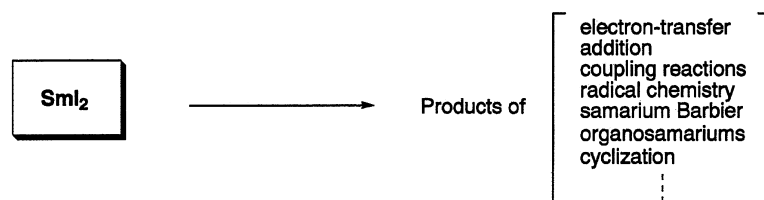
## Graphical abstracts

### Twenty-five years of organic chemistry with diiodosamarium: an overview

Henri B. Kagan

Laboratoire de Synthèse Asymétrique (UMR 8075), Institut de Chimie Moléculaire et des Matériaux d'Orsay, Université Paris-Sud, 91405 Orsay, France

*Tetrahedron 59 (2003) 10351*



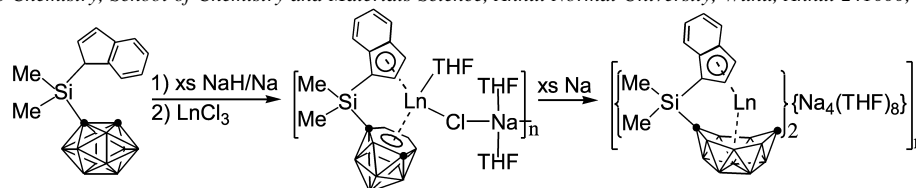
### Substituents effect on molecular structures of 13-vertex *closo*-metallacarboranes of rare earths. Synthesis and structural characterization of metallacarboranes bearing *nido*- and *arachno*-carborane ligands

Shaowu Wang,<sup>a,b</sup> Yaorong Wang,<sup>a</sup> Mak-Shuen Cheung,<sup>a</sup> Hoi-Shan Chan<sup>a</sup> and Zuowei Xie<sup>a,\*</sup>

<sup>a</sup>Department of Chemistry, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, China

<sup>b</sup>Institute of Organic Chemistry, School of Chemistry and Materials Science, Anhui Normal University, Wuhu, Anhui 241000, China

*Tetrahedron 59 (2003) 10373*

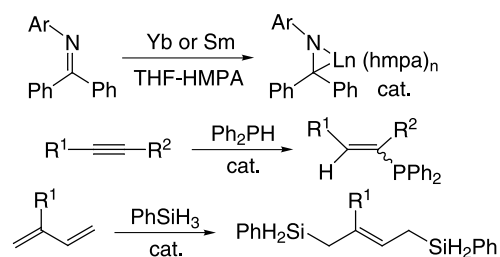


### Synthesis of lanthanide(II)–imine complexes and their use in carbon–carbon and carbon–nitrogen unsaturated bond transformation

Ken Takaki,\* Kimihiro Komeyama and Katsuomi Takehira

Department of Chemistry and Chemical Engineering, Graduate School of Engineering, Hiroshima University, Kagamiyama, Higashi-Hiroshima 739-8527, Japan

*Tetrahedron 59 (2003) 10381*



### Reduction and reductive coupling of imines by Sm(II)-based reagents

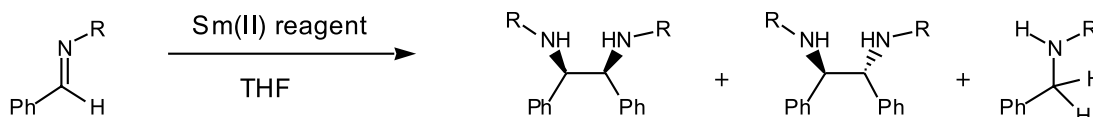
Myeongseob Kim,<sup>a</sup> Brian W. Knettle,<sup>a</sup> Anders Dahlén,<sup>b</sup> Göran Hilmersson<sup>b,\*</sup> and Robert A. Flowers, II<sup>a,\*</sup>

<sup>a</sup>Department of Chemistry and Biochemistry, Texas Tech University, Box 41061, Lubbock, TX 79409-1061, USA

<sup>b</sup>Department of Chemistry, Göteborg University, SE-412 96 Göteborg, Sweden

The reductive coupling of aldimines and a ketimine by a series of Sm(II) reagents were examined. Generally, Sm{N[Si(CH<sub>3</sub>)<sub>3</sub>]<sub>2</sub>}<sub>2</sub> provided the best diastereoselectivity and SmI<sub>2</sub>/Et<sub>3</sub>N/H<sub>2</sub>O was found to effectively reduce or couple all imines examined in this study.

*Tetrahedron 59 (2003) 10397*

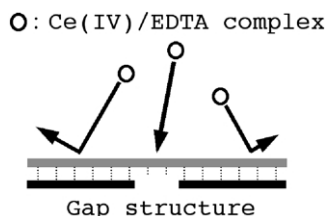


## Hydrolysis of DNA by cerium(IV)/EDTA complex

Yoshihito Kitamura, Jun Sumaoka and Makoto Komiyama\*

Research Center for Advanced Science and Technology, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8904, Japan

Gap-site in substrate DNA is selectively hydrolyzed by homogeneous solution of Ce(IV)/EDTA complex. The reactions have been kinetically analyzed.

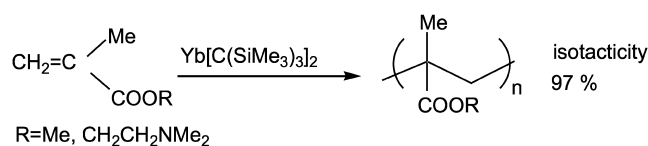


Tetrahedron 59 (2003) 10403

## Isospecific polymerizations of alkyl methacrylates with a bis(alkyl)Yb complex and formation of stereocomplexes with syndiotactic poly(alkyl methacrylate)s

Guizhong Qi, Yuu Nitto, Akira Saiki, Taketoshi Tomohiro, Yuushou Nakayama and Hajime Yasuda\*

Department of Applied Chemistry, Graduate School of Engineering, Hiroshima University, 1-4-1 Higashi-Hiroshima, Higashi-Hiroshima 739-8527, Japan



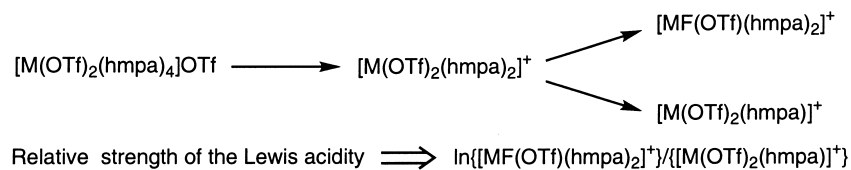
Tetrahedron 59 (2003) 10409

## Tandem mass spectrometric analysis of rare earth(III) complexes: evaluation of the relative strength of their Lewis acidity

Hideyuki Tsuruta,<sup>a</sup> Kentaro Yamaguchi<sup>b</sup> and Tsuneo Imamoto<sup>a,\*</sup>

<sup>a</sup>Department of Chemistry, Faculty of Science, Chiba University, Yayoi-cho, Inage-ku, Chiba 263-8522, Japan

<sup>b</sup>Chemical Analysis Center, Chiba University, Yayoi-cho, Inage-ku, Chiba 263-8522, Japan

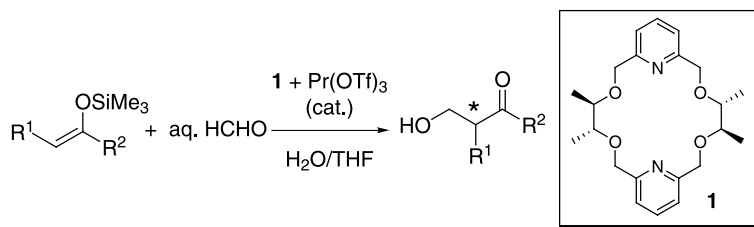


Tetrahedron 59 (2003) 10419

## Lewis acid-catalyzed asymmetric hydroxymethylation of silicon enolates in aqueous media

Kei Manabe, Shunpei Ishikawa, Tomoaki Hamada and Shū Kobayashi\*

Graduate School of Pharmaceutical Sciences, The University of Tokyo, CREST, Hongo, Bunkyo-ku, Tokyo 113-0033, Japan



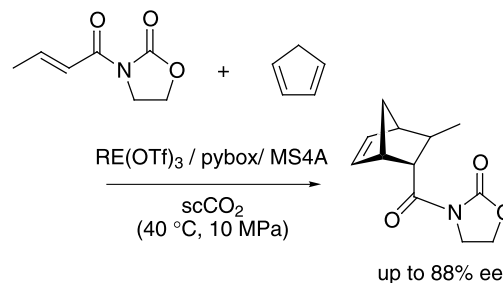
Tetrahedron 59 (2003) 10439

## Asymmetric Diels–Alder reactions in supercritical carbon dioxide catalyzed by rare earth complexes

Shin-ichi Fukuzawa,\* Ken Metoki and Shin-ichi Esumi

Department of Applied Chemistry, Institute of Science and Engineering, Chuo University, Kasuga, Bunkyo-ku, Tokyo 112-8551, Japan

*Tetrahedron* 59 (2003) 10445

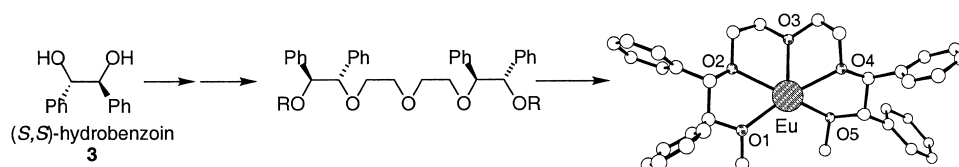


## Modular chiral polyether podands and their lanthanide complexes

Helen C. Aspinall,\* Nicholas Greeves\* and Edward G. McIver

Department of Chemistry, University of Liverpool, Donnan and Robert Robinson Laboratories, Liverpool L69 7ZD, UK

*Tetrahedron* 59 (2003) 10453

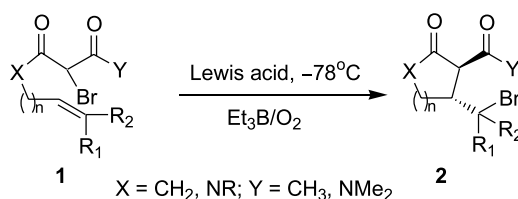


## Lewis acid-catalyzed atom transfer radical cyclization of unsaturated $\beta$ -keto amides

Dan Yang,\* Yi-Long Yan, Ka-Lun Law and Nian-Yong Zhu

Department of Chemistry, The University of Hong Kong, Pokfulam Road, Hong Kong, People's Republic of China

*Tetrahedron* 59 (2003) 10465



## Induced circular dichroism by complexation of gadolinium(III) porphyrinates with chiral amino acids and dipeptides: effects of axial $\beta$ -diketonate ligands on chirality sensing and recognition

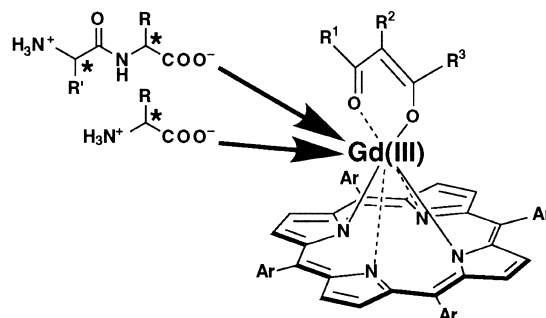
Hitoshi Tamiaki,<sup>a,\*</sup> Satomi Unno,<sup>a</sup> Eiji Takeuchi,<sup>a</sup> Nobuyuki Tameshige,<sup>b</sup> Satoshi Shinoda<sup>b</sup> and Hiroshi Tsukube<sup>b</sup>

<sup>a</sup>Department of Bioscience and Biotechnology, Faculty of Science and Engineering, Ritsumeikan University, Kusatsu, Shiga 525-8577, Japan

<sup>b</sup>Department of Chemistry, Graduate School of Science, Osaka City University, Sugimoto, Sumiyoshi-ku, Osaka 558-8585, Japan

The 1:1 supercomplexes showed chirality-specific CD peaks in the Soret region; reverse S-shape for L-form and S-shape for D-form.

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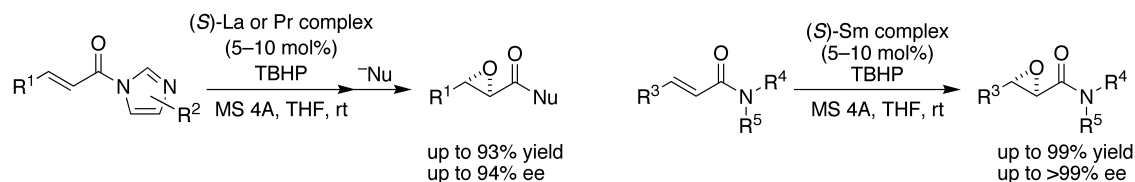


## Catalytic asymmetric epoxidation of $\alpha,\beta$ -unsaturated carboxylic acid imidazolides and amides by lanthanide-BINOL complexes

*Tetrahedron 59 (2003) 10485*

Takashi Ohshima, Tetsuhiro Nemoto, Shin-ya Tosaki, Hiroyuki Kakei, Vijay Gnanadesikan and Masakatsu Shibasaki\*

*Graduate School of Pharmaceutical Sciences, The University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113-0033, Japan*



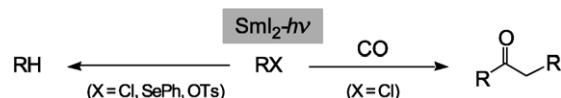
## A novel photoinduced reduction system of low-valent samarium species: reduction of organic halides and chalcogenides, and its application to carbonylation with carbon monoxide

*Tetrahedron 59 (2003) 10499*

Yukihito Sumino,<sup>a</sup> Nami Harato,<sup>b</sup> Yuri Tomisaka<sup>b</sup> and Akiya Ogawa<sup>b,\*</sup>

<sup>a</sup>*Bulk Chemicals Process R & D Department Manufacturing Technology R & D Laboratories, Shionogi & Co., Ltd., 1-3, Kuise, Terajima 2-chome, Amagasaki, Hyogo 660-0813, Japan*

<sup>b</sup>*Department of Chemistry, Faculty of Science, Nara Women's University, Kitauyanishi-machi, Nara 630-8506, Japan*



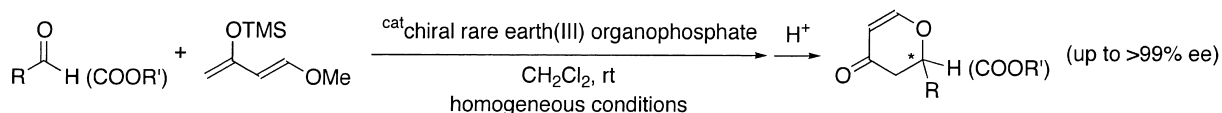
## Chiral rare earth organophosphates as homogeneous Lewis acid catalysts for the highly enantioselective hetero-Diels-Alder reactions

*Tetrahedron 59 (2003) 10509*

Hiroshi Furuno,<sup>a,\*</sup> Tetsuji Hayano,<sup>a</sup> Takeshi Kambara,<sup>b</sup> Yuichi Sugimoto,<sup>a</sup> Takeshi Hanamoto,<sup>a</sup> Yumiko Tanaka,<sup>a</sup> Yong Zhi Jin,<sup>a</sup> Takumi Kagawa<sup>b</sup> and Junji Inanaga<sup>a,\*</sup>

<sup>a</sup>*Institute for Materials Chemistry and Engineering (IMCE), Kyushu University, Hakozaki, Higashi-ku, Fukuoka 812-8581, Japan*

<sup>b</sup>*Nanyo Research Laboratory, Tosoh Co. Ltd., Kaisei-cho, Shin-nanyo, Yamaguchi 746-8501, Japan*

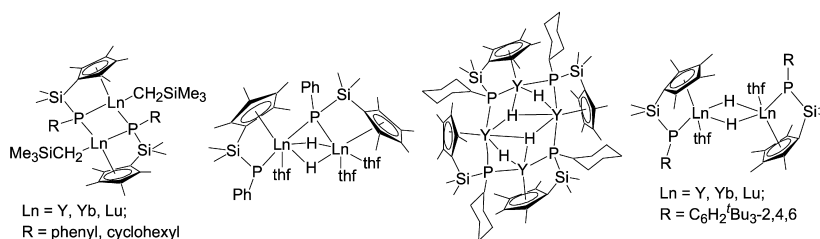


## Rare earth alkyl and hydride complexes bearing silylene-linked cyclopentadienyl-phosphido ligands. Synthesis, structures, and catalysis in olefin hydrosilylation and ethylene polymerization

*Tetrahedron 59 (2003) 10525*

Olivier Tardif, Masayoshi Nishiura and Zhaomin Hou\*

*Organometallic Chemistry Laboratory, RIKEN Institute (The Institute of Physical and Chemical Research), Hirosawa 2-1, Wako, Saitama 351-0198, Japan*

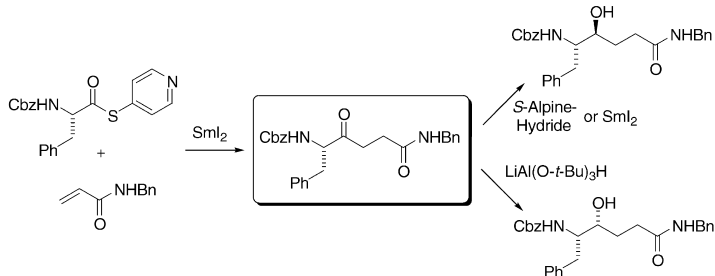


## Further studies in the acyl-type radical additions promoted by SmI<sub>2</sub>: mechanistic implications and stereoselective reduction of the keto-functionality

*Tetrahedron 59 (2003) 10541*

Lise M. Mikkelsen, Christina M. Jensen, Bettina Høj, Peter Blakskjær and Troels Skrydstrup\*

Department of Chemistry, University of Aarhus, Langelandsgade 140, Aarhus C 8000, Denmark

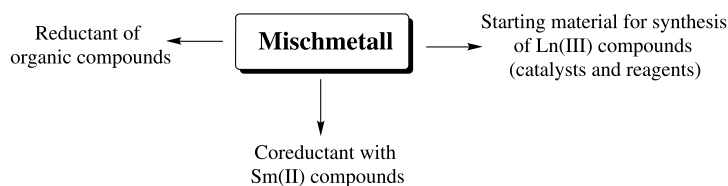


## Some uses of mischmetall in organic synthesis

*Tetrahedron 59 (2003) 10551*

Marie-Isabelle Lannou, Florence Hélon and Jean-Louis Namy\*

Laboratoire de Catalyse Moléculaire, associé au CNRS, ICMO, Bat 420, Université Paris-Sud, 91405, Orsay, France.



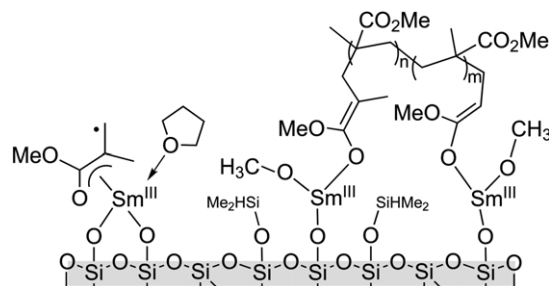
## Methyl methacrylate polymerization at samarium(II)-grafted MCM-41

*Tetrahedron 59 (2003) 10567*

Reiner Anwander,\* Iris Nagl, Clemens Zapilko and Markus Widenmeyer

Anorganisch-chemisches Institut, Technische Universität München, D-85747 Garching, Lichtenbergstrasse 4, München, Germany

PMS–PMMA composite materials are produced under mild conditions when Sm(II)-grafted mesoporous silica MCM-41 is used as an initiator for the graft polymerization of methyl methacrylate, the efficiency of which depends on the steric unsaturation of the Sm(II) surface sites.

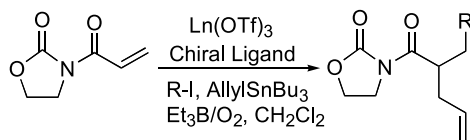


## Enantioselective radical allylation reactions using chiral lanthanide Lewis acids

*Tetrahedron 59 (2003) 10575*

Mukund P. Sibi,\* Shankar Manyem and Rajesh Subramaniam

Department of Chemistry, Department of Chemistry, North Dakota State University, Fargo, ND 58105-5516, USA

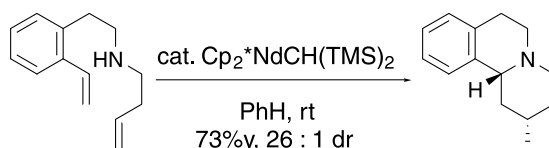


**Determining the scope of the lanthanide mediated, sequential hydroamination/C–C cyclization reaction: formation of tricyclic and tetracyclic aromatic nitrogen heterocycles**

*Tetrahedron 59 (2003) 10581*

Gary A. Molander\* and Shawn K. Pack

Roy and Diana Vagelos Laboratories, Department of Chemistry, 231 South 34th Street, University of Pennsylvania, Philadelphia, PA 19104-6323, USA



**'Fluorous nanoflow' system for the Mukaiyama aldol reaction catalyzed by the lowest concentration of the lanthanide complex with bis(perfluorooctanesulfonyl)amide ponytail**

*Tetrahedron 59 (2003) 10593*

Koichi Mikami,<sup>a,\*</sup> Masahiro Yamanaka,<sup>a</sup> Md. Nazrul Islam,<sup>a</sup> Kenichi Kudo,<sup>b</sup> Nobuko Seino<sup>c</sup> and Masaki Shinoda<sup>c</sup>

<sup>a</sup>Department of Applied Chemistry, Graduate School of Science and Engineering, Tokyo Institute of Technology, 2-12-1 O-okayama, Meguro-ku, Tokyo 152-8552, Japan

<sup>b</sup>KYA Technologies Corporation, 16-4 Kawa-machi, Hachioji-city, Tokyo 191-0154, Japan

<sup>c</sup>Electric Co. Ltd., 1 Fuji-machi, Hino-city, Tokyo 191-8502, Japan

