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[Lab. of Pharm. Synthetic Chemistry]

**Diastereoselective Addition of Allyltriphenylstannane to 3-Sulfinylfurfural
Mediated by Titanium(IV) Tetrachloride and Tin(IV) Tetrachloride.**

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The addition of allyltriphenylstannane to 3-sulfinylfurfural in the presence of titanium(IV) tetrachloride proceeded with high diastereoselectivity to give the furyl alcohol, whereas the similar treatment with tin(IV) tetrachloride afforded the other diastereoisomeric alcohol, exclusively.

[J. Chem. Soc., Perkin Trans. 1, 1994, 15-24]

[Lab. of Pharm. Synthetic Chemistry]

**Enantioselective Synthesis of (+)-Indolizine, (+)-Laburnine and
(+)-Elaeokanines A and C Using the Diels-Alder Reaction of α -
(2-*exo*-Hydroxy-10-bornylsulfinyl) maleimides.**

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The Diels-Alder adduct derived from *N*-butynylmaleimide and cyclopentadiene was transformed into the tetracyclic lactams and *via* a common precursor. The lactams were converted into (+)-indolizine and (+)-laburnine, respectively, *via* retro-Diels-Alder reaction. Similar methodology was successfully applied to the synthesis of (+)-elaekanine A and (+)-elaekanine C.

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[Lab. of Pharm. Synthetic Chemistry]

**Diels-Alder Reactions of Optically Active α -(2-*exo*-Hydroxy-10-
bornylsulfinyl)-maleimides and its Application to Optically Active
5-Functionalised Pyrrolidines *via* Retro-Diels-Alder Reaction.**

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Optically pure sulfinylmaleimides were synthesized. The Diels-Alder reactions of the sulfoxides with various dienes showed high diastereoselectivity. Regioselective reduction of the adducts followed by desulfinylation afforded the γ -hydroxy lactams. *N*-Acyyliminium additions using these compounds proceeded diastereoselectively to give γ -alkyl lactams by virtue of its conformationally rigid, bicyclo[2.2.1]- and 7-oxabicyclo[2.2.1]heptene moiety.