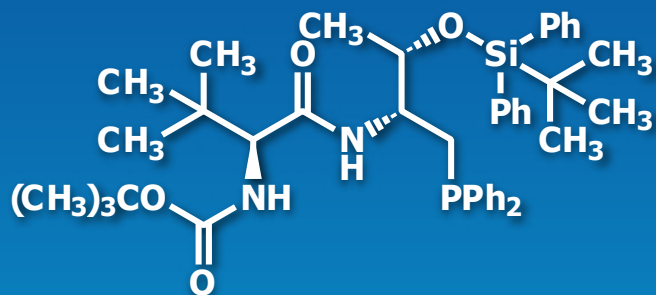


Efficient and Versatile Dipeptide-based Chiral Phosphine Catalyst



O-TBDPS-D-Thr-N-Boc-L-tert-Leu-Diphenylphosphine

100mg

[T2937]

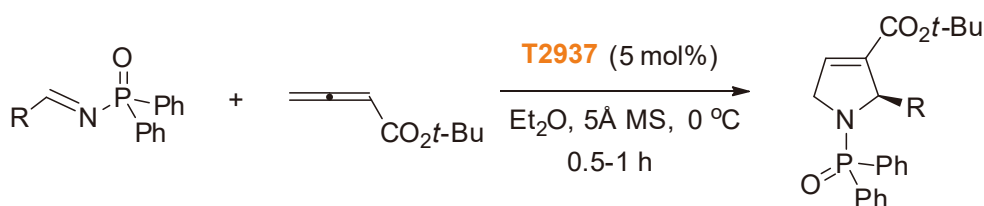
Advantages

- High nucleophilicity
- Remarkable stability
- Demonstrated applicability in asymmetric cycloadditions
- Inducing excellent enantioselectivity

A remarkably effective, versatile and practical catalyst **[T2937]** for the [3+2] and [4+2] cycloadditions was developed by Lu *et al.* The [3+2] cycloaddition of alkyl or aryl-imines with allenolate proceeded remarkably fast in the presence of **T2937**, affording the products in good to excellent yields, and with nearly perfect enantioselectivities.¹⁾ **T2937** was also found to be highly efficient for the asymmetric synthesis of highly functionalized cyclopentenones²⁾ and 3-spirocyclohexene-2-oxindoles.³⁾

Notably, **T2937** is a catalyst of great practical value, and it is stable in the air at room temperature.

Application



- References** 1) X. Han, F. Zhong, Y. Wang, Y. Lu, *Angew. Chem. Int. Ed.* **2012**, 51, 767. DOI: <https://doi.org/10.1002/anie.201106672>
 2) a) X. Han, Y. Wang, F. Zhong, Y. Lu, *J. Am. Chem. Soc.* **2011**, 133, 1726. DOI: <https://doi.org/10.1021/ja1106282>
 b) Q. Zhao, X. Han, Y. Wei, M. Shi, Y. Lu, *Chem. Commun.* **2012**, 48, 970. DOI: <https://doi.org/10.1039/C2CC16904E>
 3) F. Zhong, X. Han, Y. Wang, Y. Lu, *Chem. Sci.* **2012**, 3, 1231. DOI: <https://doi.org/10.1039/C2SC00963C>

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