Supporting Information
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An Efficient and Convenient Protocol for Highly Regioselective Cleavage of Terminal Epoxides to β-Halohydrins

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Supporting Information

1H NMR spectra were recorded in CDCl₃ solution with a Bruker DRX 400 spectrometer (400 MHz). 13C NMR spectra were recorded in CDCl₃ solution with a Bruker DRX 400 spectrometer (100 MHz). All signals are expressed as ppm downfield from tetramethylsilane used as an internal standard (δ value). IR spectra were recorded on a Perkin Elmer Spectrum RX I FT-IR spectrometer as thin film unless otherwise noted. High-resolution mass spectra (HRMS) were recorded on Micromass GCTTM TOF time-of-flight light mass spectrometer by electrospray ionization time of flight reflectron experiments. All solvents were dried and distilled according to standard procedures. Column chromatography was performed on silica gel (300 ~ 400 μm).

General procedure: To the solution of epoxide (5 mmol) in CH₂Cl₂ (8 mL) was added active MgX₂•THF (2.0 equiv, M = 1.78 mol/L) at room temperature. The reaction was stirred at the same temperature for 1 min and then quenched with saturated aqueous NH₄Cl. The solvent was removed under vacuum and the residue was extracted with ethyl acetate. The combined organic layer was washed with water and brine, dried over anhydrous Na₂SO₄, and concentrated under reduced pressure. Purification of the residue was by chromatography on silica gel to give the product.
OH

TMS

OMOM

Br

4a
5b

![Chemical Structure](image)
The image contains a chemical structure labeled as 6b. The structure includes a TBSO group, a chlorine atom (Cl), and an iodine atom (I). The graph shows a 1D NMR spectrum with ppm (f1) on the x-axis and intensity on the y-axis.