Utilization of Santai SepaFlash™ column for the Purification of Natural Product Precursor on Multi-gram scale

Santai Science Inc.

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Chromatography Application Note

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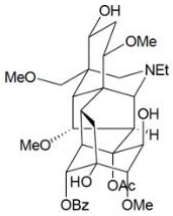
The natural product aconitine remains as one of the longstanding targets of total synthesis due to its complex hexacyclic core. Its high degree of oxygenation has represented an important target in natural product synthesis.



Aconitine

Lengthy 20-30 steps total synthesis requires a large range of materials on various scales (<1mg - 50g), each step can have a wide range of impurities. Key to the success of each step is rapid access to pure materials, often in large quantities. Automatic column chromatography can greatly shorten the time required for the purification and improve the efficiency of complex molecule synthesis.

The purification of one of the starting materials, a benzyl protected unsaturated diol (**A**) on a large scale (shown in **Figure 1**) is demonstrated here. Within 70 mins, the Santai automatic flash chromatography instrument SepaBean™ machine T with a pre-packed 330g SepaFlash™ column (S-5101-330) was able to isolate 4.35g of **A** in 98% purity.

The SepaFlash™ silica S-5101 series columns are the best-selling products of Santai Science, which have been used by chemists and scientists around the global. They are pre-packed with UltraPure Irregular 40~63 μm Silica gel using Santai proprietary dry packing technique. Those silica features tight particle size distribution, low level of fines and low trace metal content, neutral pH, and controlled water content.

Santai produces a series of SepaFlash™ silica flash columns (S-5101 series) in different sizes ranging from 4 g to 3000 g, which can satisfy your separation needs of 4 mg to 300 g of sample.

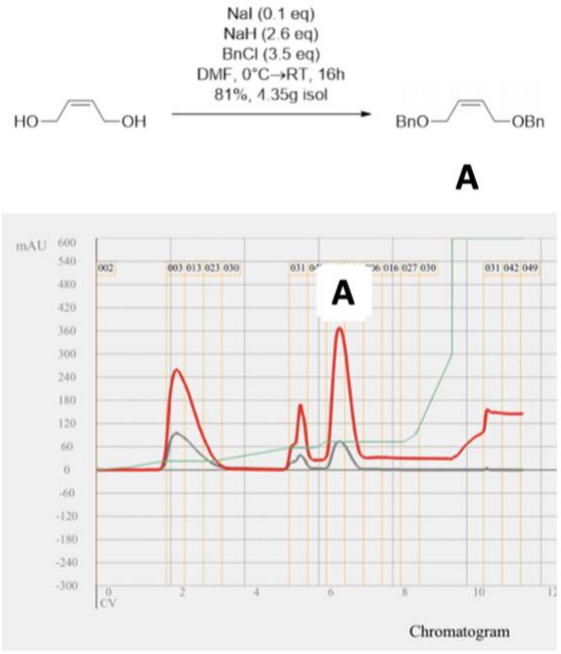


Figure 1. Synthesis and purification of a benzyl protected unsaturated diol (**A**) on 4.35g scale.

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