



"I am very pleased with the great service we received on this project!" - 03/03/2016

"Your team has done a great job with this project, particularly sticking very close to the proposed timelines (despite some synthetic challenges) and providing continual progress reports." - 12/22/2015

Hope you have had a great start to 2016!

10 year Anniversary

This year, we are celebrating 10 years of Innovations and Solving Tough Chemical Synthesis Challenges!

Custom Synthesis of Ref Stds



With years of combined experience in varied chemical synthesis processes and isolation techniques, we have been able to synthesize and isolate compounds and metabolites at high purity, often in short time duration (typically less than 4 weeks). We find innovative ways to insert stable labels in the reference standards that we synthesize, even when others have struggled!

As an example, we were first to successfully synthesize and isolate Dabigatran-acyl-glucuronide at high purity levels. We have continued development of that synthesis technology and have now developed an even more robust process for synthesis and isolation of 1-acyl-D-glucuronides. More about that will be shared in future communications.

A major challenge facing many facilities that synthesize deuterium labeled compounds is non-availability of Lithium-Aluminum-Deuteride which was commonly used previously to reduce carbonyls and introduce two deuteriums in the molecule in a relatively inexpensive process.



Lithium-Aluminum-Deuteride is synthesized using Lithium-Deuteride which is the fuel in a Hydrogen Bomb. Unfortunately, according to our vendor, Lithium-Deuteride is no longer available at a reasonable price, and hence Lithium-Aluminum-Deuteride is no longer commercially available. This means that alternative sources of deuterium label insertion have to be used, which also often require a longer synthesis pathway. As a result, synthesis of some deuterium labeled reference standards is now significantly more expensive than it was previously.

Analytical Services



Our standard GLP Certificate of Analysis includes (i) UV HPLC Purity assessment averaged over multiple absorbance wavelengths; (ii) LC-MS for confirmation of molecular weight; and (iii) Proton NMR analysis for molecular structure confirmation and residual organic solvent determination.

For compounds that contact water in the last two synthesis steps, we also include KF titration for moisture content. For compounds that are >98% pure and in stable crystalline form, these analysis are usually sufficient to accurately determine potency and confirm molecular structure.

For assessment of chiral compounds, we offer Chiral HPLC and Optical Rotation analysis. Recently, we have added ATR-FT-IR and DTA/TGA analysis capabilities in-house. FT-IR spectra are usually unique to crystal form and molecular structure, and polymorphs will often have a different FT-IR spectrum. Simultaneous DTA/TGA analysis up to 350 °C can determine fraction of volatile solvents and determine melting point. TGA to 1000 °C in air can determine fraction of inorganic salts and fillers that might be present – typically in polymeric materials.

Catalog of in-stock Ref Stds

We carry a number of Certified Analytical Reference Standards in-stock. Most of these are stable labeled and are accompanied by a comprehensive CoA that includes copies of the analytical data.

[Chemtos on-line catalog](#)



Our web catalog on www.chemtos.com has a list of most of the reference standards that we have in-stock or can re-synthesize. Use of Search bar on top right is quite effective in finding compounds by name or CAS number.

Please do not hesitate to contact me if we can of any assistance in fulfilling your Certified Analytical Reference Standard needs.

Best regards,

Khalid

Khalid A. Thakur, Ph.D.



To stop receiving such occasional communications, please advise by reply email.