Samarium diiodide

Solvent preparation

Step 1
- Get fresh THF from the solvent system
- If your THF is already degassed, you can skip this step

Step 2
- You will need a high purity nitrogen tank or argon tank
- Open the schlenk flask using standard schlenk techniques
- Submerge the long needle in the THF solution, and add a vent needle (you should see bubbles now)
- Sonicate for 30 minutes
- THF is now degassed

Schlenk preparation

Step 3
- Oven dry a 100 mL Schlenk overnight with a stir bar
- You will need two spatulas, and a funnel that has a long neck

Step 4
- Find Sm metal and diiodoethane
- You need 1.65 g of Sm
- You need 1.55 g of diiodoethane
- This makes 55 mL of 0.2 M solution of SmI_2

Procter, D. *J. Org. Chem.* **2012**, *77*, 3049-3059. https://doi.org/10.1021/jo300135v

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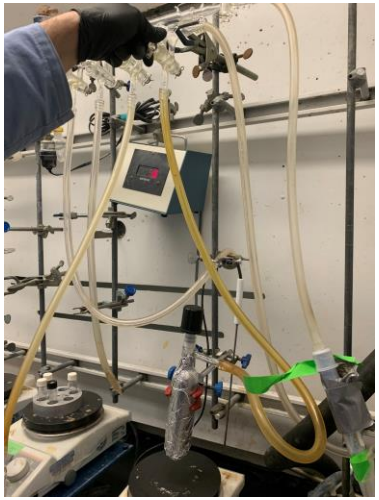
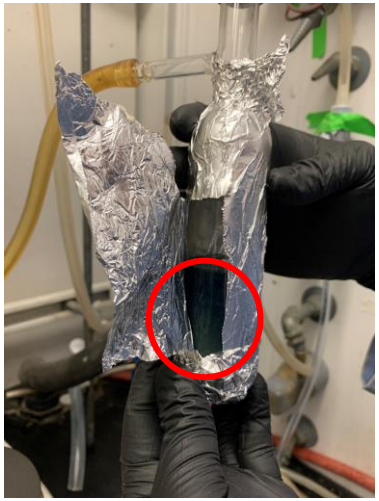
Making the 0.2 M SmI_2 solution



Step 5
- Bring the filled Schlenk back to your fume hood
- Connect to vacuum and cycle three times

Step 6
- Add 55 mL of degassed THF
- Turn stirring on



Step 7
- Ethylene is generated (bubbles circled in red), so pull vacuum on the Schlenk, but turn the stopcock quickly otherwise SmI_2 will be pulled up into the Schlenk line
- The solution will be warm to the touch

Step 8
- Stir for 20 minutes while open to the nitrogen line, the solution should stop bubbling, and cool to room temperature
- Now the Schlenk can be sealed and left to stir overnight
- Store in freezer
- Enjoy your 0.2 M SmI_2!