

- Zepatier is a two drug combination for the treatment of hepatitis C (genotypes 1 and 4) consisting of grazoprevir and elbasavir.
- Hepatitis C is an infectious disease that affects the liver and is the main cause of liver transplantations in the world.
- About 150 million people suffer from this disease.
- Grazoprevir is a NS3/4A (HCV serine protease) inhibitor while elbasavir is a NS5A protein (plays a role in HCV RNA replication) inhibitor.
- The drug was approved in 2016 by the FDA.
- Estimated costs for a 12-week treatment of zepatier are upwards of \$54,600.

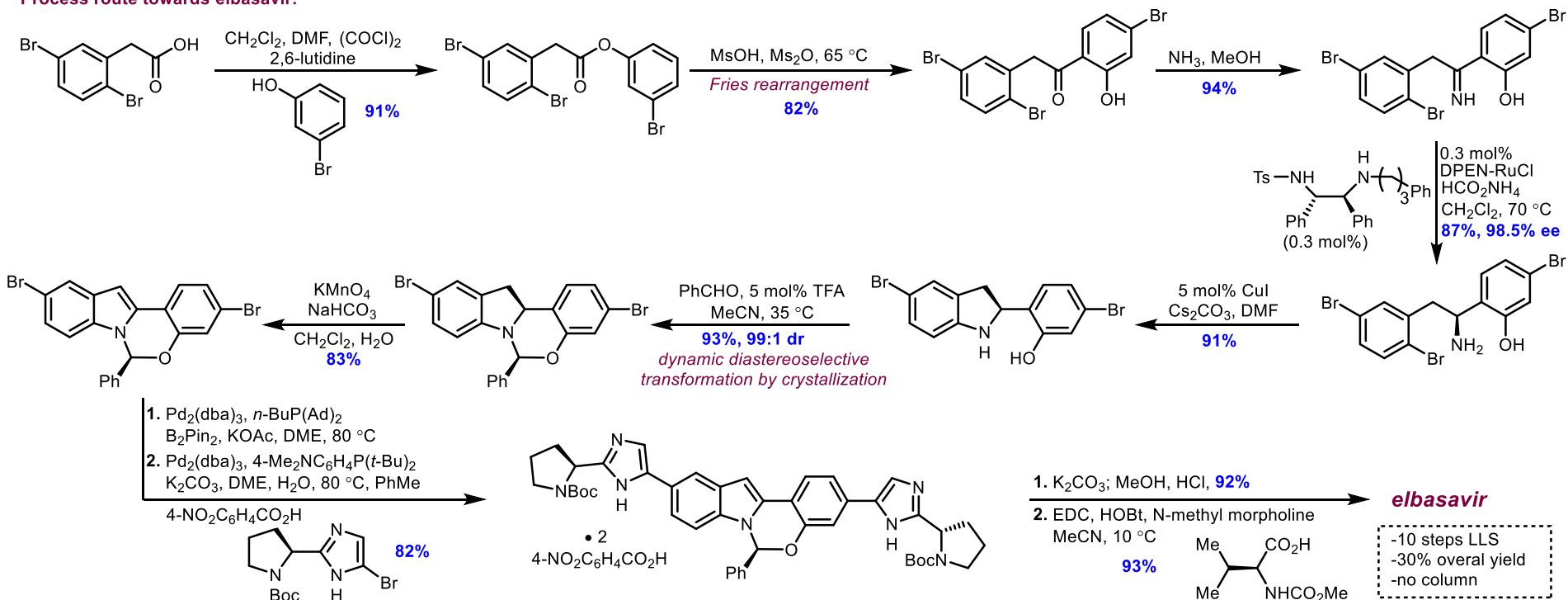
Kuetha, *Org. Lett.* **2013**, 15(16), 4174-4177
 Xu, *Org. Lett.* **2018**, 20, 7261-7265

Li, *J. Org. Chem.* **2014**, 79, 8533-8540
 Mangion, *Org. Lett.* **2014**, 16(9), 2310-2313

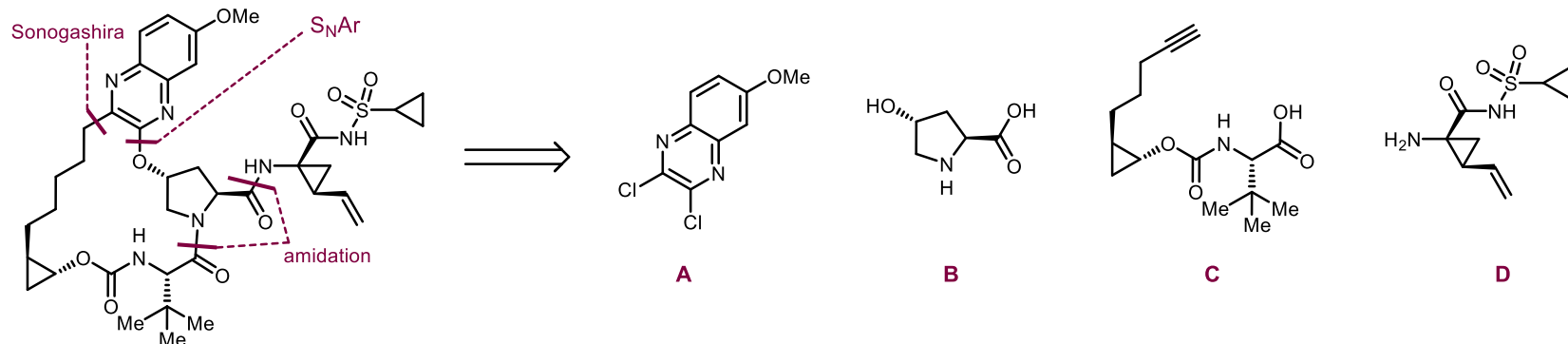
Check out DOTW: *Simeprevir* by Lucas and POTW: *Glecaprevir* by Chris D.



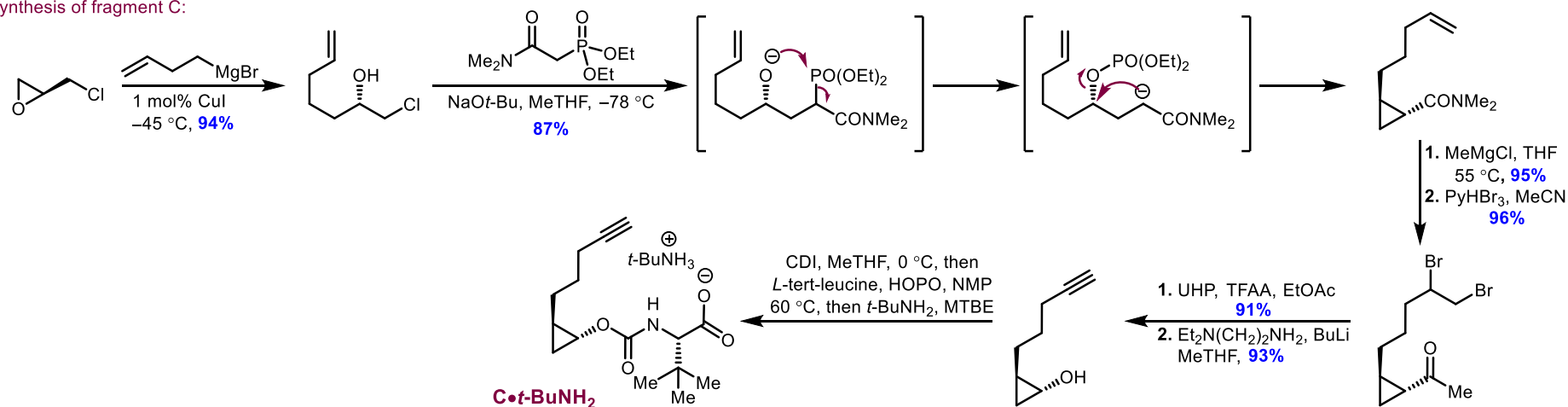
Process route towards elbasavir:



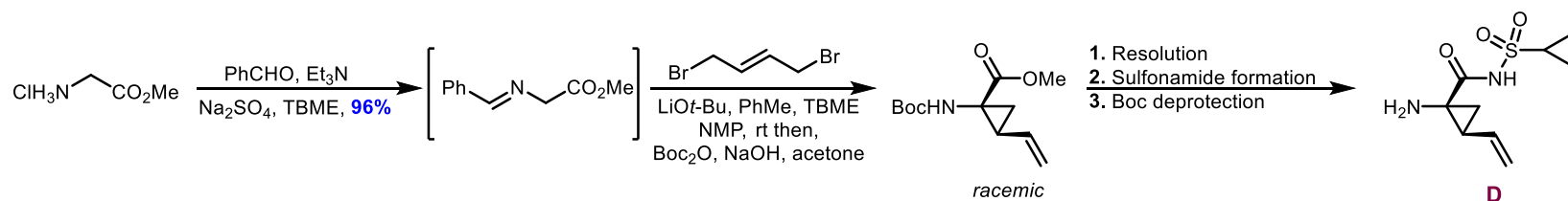
Process route towards grazoprevir:



Synthesis of fragment C:



Synthesis of fragment D:



Combination of the four fragments:

