

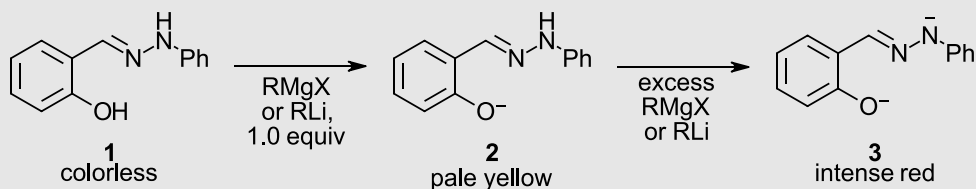


APPLICATION NOTE

Titration of organolithium and organomagnesium reagents

Catapower's salicylaldehyde phenylhydrazone is a **combined titrant and indicator** used to determine the concentration of basic organometallics, such as organolithium or Grignard reagents. The product is a non-hygroscopic solid, making it more convenient to use than liquid alcohol titrants such as butanol.

Dropwise addition of an organometallic with unknown concentration to a THF solution of the indicator (**1**, colorless) produces pale yellow monoanion **2**. After the phenolic proton is fully consumed by 1.0 equiv organometallic, any excess base forms intensely red dianion **3**. Thus, the endpoint of the titration is the transition from yellow to persistent, vivid orange.



Recommended procedure:

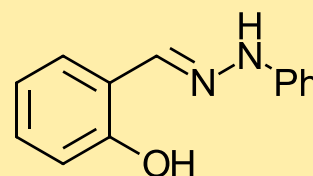
Dissolve 60-80 mg **1** (accurately weighed) into 10 mL anhydrous THF under inert atmosphere. With stirring, slowly add the solution of organolithium or Grignard reagent in a dropwise fashion. The colorless solution will become yellow with the first drop. Continue addition until a vivid and persistent orange endpoint is reached, indicating 1.0 equiv strong base has been added. An intense red solution indicates over-titration.

Further reading:

Love & Jones, *Journal of Organic Chemistry* **1999**, *64*, 3755-3756.

DOI: 10.1021/jo982433e

Product Highlight



Name: Salicylaldehyde phenylhydrazone

CAS: 614-65-3

Formula: C₁₃H₁₂N₂O

MW: 212.25 g / mol

Catalog: 01-04-0011