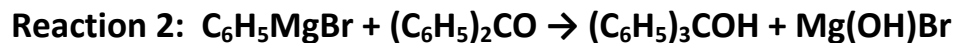
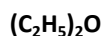
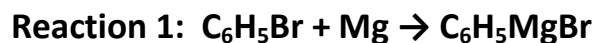
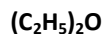


REACTION TABLE PRACTICE

Dr. Slotsky

Honors Chemistry II



Both reactions are performed in the same flask – magnesium and bromobenzene ($\text{C}_6\text{H}_5\text{Br}$) are reacted together in ethyl ether ($(\text{C}_2\text{H}_5)_2\text{O}$), and then benzophenone ($(\text{C}_6\text{H}_5)_2\text{CO}$) is added. The reaction is then washed with saturated sodium bicarbonate solution, while the product remains in the ethyl ether. The ethyl ether is evaporated to yield triphenylmethanol ($(\text{C}_6\text{H}_5)_3\text{COH}$). They made me do this one in college. Someday you may have to. Please complete the reaction table below for this reaction sequence.

Substance	Formula	Mass	Molar mass	Moles
Bromobenzene	$\text{C}_6\text{H}_5\text{Br}$	3.45 g		
Magnesium	Mg	0.535 g		
Benzophenone	$(\text{C}_6\text{H}_5)_2\text{CO}$	3.64 g		
Triphenylmethanol (product)	$(\text{C}_6\text{H}_5)_3\text{COH}$	(expected yield)		

First, work out the molar mass for each reactant and the desired product. Calculate the moles of each reactant. Using the equations above, work out how many moles of product this reaction should yield. Note that, as all coefficients are 1, this is simply the smallest number of moles. Finally, calculate the expected grams of product.

Source: "Operational Organic Chemistry 2nd Edition", John W. Lehman, Allyn and Bacon, Inc., 1988