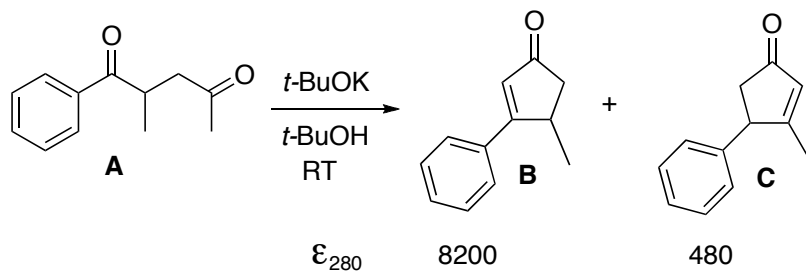


## Ultraviolet Practice #5

You have reacted **A** to make a mixture of **B** and **C**. Enones **B** and **C** have molar absorptivities at 280 nm as shown. A 3.3 mg portion of the mixture of **B** and **C** dissolved in 200 mL of ethanol shows an absorbance at 280 nm of  $A = 0.55$ . How much of the mixture is **B**?



$$C_{12}H_{12}O = 172$$

$$.0033 / 172 \times 5 = 0.00009595 \text{ M}$$

$$8200 [B] + 480 [C] = 0.55$$

$$[B] + [C] = 0.00009595$$

$$8200 [B] + 8200 [C] = 0.78679$$

$$- 7720 [C] = - 0.23679$$

$$[C] = 0.00003067 \text{ M}$$

$$[B] = 0.00006528 \text{ M}$$

$$B = 68\%$$