CHEM – 647

Organic synthesis



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1,3-di Oxygenated Compounds

1,3-DICARBONYL COMPOUNDS

$$Me \xrightarrow{1 \\ a \\ 2 \\ b} OEt$$

?????



1,3-di Oxygenated Compounds

1,3-DICARBONYL COMPOUNDS

Analysis

Synthesis



1,3-di Oxygenated Compounds

1,3-DICARBONYL COMPOUNDS

$$Ph \longrightarrow \begin{array}{c} CO_2Et \\ CO_2Et \end{array}$$

$$Ph \longrightarrow Ph \longrightarrow CO_2Et + OEt \\ CO_2Et \longrightarrow CO_2Et$$

$$Ph + CO_2Et$$
 CO_2Et
 CO_2Et
 CO_2Et
 CO_2Et

Me CHO
$$\Longrightarrow$$



1,3-di Oxygenated Compounds

1,3-DICARBONYL COMPOUNDS

$$CO_2Et$$
 \longrightarrow CO_2Et

Synthesis: Dieckmann Reaction

$$EtO_2C$$
 CO_2Et
 EtO
 $EtOH$
 CO_2Et



1,3-di Oxygenated Compounds

1,3-DICARBONYL COMPOUNDS

$$\Rightarrow$$
 Ph $^{\wedge}$ Br + t-BuO₂C CO₂Bu-t

Synthesis:

$$CH_2(CO_2Bu-t)_2$$
 $\xrightarrow{\text{base}}$ $Ph CH(CO_2Bu-t)_2$ $\xrightarrow{\text{base}}$ TM