Sometimes the hardest part of doing a problem is being able to search out and find errors. Sometimes its because your eyes and brain keep repeating the mistakes over and over again and sometimes its because you are unaware of an actual error.

- For each of the following synthesis, identify the error(s) in the sequences shown that prevent them from being successful. Find the TRAGIC FLAWS!
- Rework the synthesis so you have the right order/reagents.

Sequence 1:

\[
\begin{align*}
\text{OH} & \quad \text{H} & \quad \text{OCH}_3 \\
\text{CH}_3 & \quad \text{OH, H} & \quad \text{Zn(Hg)} & \quad \text{H}_3\text{O}^+ \\
\text{OCH}_3 & \quad \text{H} & \quad \text{OCH}_3
\end{align*}
\]

Find the flaw(s):

Sequence 2:

\[
\begin{align*}
\text{CH}_3 & \quad \text{OH, H} & \quad \text{Zn(Hg)} & \quad \text{H}_3\text{O}^+ \\
\text{OCH}_3 & \quad \text{H} & \quad \text{OCH}_3
\end{align*}
\]

Find the flaw(s):

Sequence 3:

\[
\begin{align*}
\text{CH}_3 & \quad \text{OH, H} & \quad \text{Zn(Hg)} & \quad \text{H}_3\text{O}^+ \\
\text{OCH}_3 & \quad \text{H} & \quad \text{OCH}_3
\end{align*}
\]

Find the flaw(s):
Sequence 4:

Find the flaw(s):

Sequence 5:

Find the flaw(s):

Sequence 6:

Find the flaw(s):
Sequence 7:

Find the flaw(s):

Sequence 8:

Find the flaw(s):
Sequence 9:

\[
\begin{array}{c}
\text{O} \\
\text{H} \\
\text{O} \\
\text{CH}_3 \\
\text{OH} \\
\text{H} \\
\text{O} \\
\text{CH}_3
\end{array} + \begin{array}{c}
\text{H}_3\text{CO}_3\text{OCH}_3 \\
\text{CH}_3\text{OH} \\
\text{H} \\
\text{O} \\
\text{CH}_3
\end{array} \rightarrow \begin{array}{c}
\text{O} \\
\text{H} \\
\text{O} \\
\text{CH}_3 \\
\text{OH} \\
\text{H} \\
\text{O} \\
\text{CH}_3
\end{array}
\]

Find the flaw(s):

\[
\begin{array}{c}
\text{O} \\
\text{H} \\
\text{O} \\
\text{CH}_3 \\
\text{OH} \\
\text{H} \\
\text{O} \\
\text{CH}_3
\end{array} \rightarrow \begin{array}{c}
\text{O} \\
\text{H} \\
\text{O} \\
\text{CH}_3 \\
\text{OH} \\
\text{H} \\
\text{O} \\
\text{CH}_3
\end{array}
\]

\[
\begin{array}{c}
\text{O} \\
\text{H} \\
\text{O} \\
\text{CH}_3 \\
\text{OH} \\
\text{H} \\
\text{O} \\
\text{CH}_3
\end{array} + \begin{array}{c}
\text{H}_3\text{CO}_3\text{OCH}_3 \\
\text{CH}_3\text{OH} \\
\text{H} \\
\text{O} \\
\text{CH}_3
\end{array} \rightarrow \begin{array}{c}
\text{O} \\
\text{H} \\
\text{O} \\
\text{CH}_3 \\
\text{OH} \\
\text{H} \\
\text{O} \\
\text{CH}_3
\end{array}
\]

Sequence 10:

\[
\begin{array}{c}
\text{H} \\
\text{O}
\end{array} \rightarrow \begin{array}{c}
\text{H} \\
\text{O}
\end{array}
\]

Find the flaw(s):

\[
\begin{array}{c}
\text{H} \\
\text{O}
\end{array} \rightarrow \begin{array}{c}
\text{H} \\
\text{O}
\end{array}
\]

\[
\begin{array}{c}
\text{H} \\
\text{O}
\end{array} \rightarrow \begin{array}{c}
\text{H} \\
\text{O}
\end{array}
\]

\[
\begin{array}{c}
\text{H} \\
\text{O}
\end{array} \rightarrow \begin{array}{c}
\text{H} \\
\text{O}
\end{array}
\]
Sequence 11:

Sequence 12:

Find the flaw(s):
Sequence 13:

Find the flaw(s):

Sequence 14:

Find the flaw(s):
Sequence 15:

Find the flaw(s):

Sequence 16:

Find the flaw(s):

\[ \text{PCC} \]