A Concise Total Synthesis of (-)-Berkelic Acid





E | 8) $\mathrm{Pd} / \mathrm{C}$, |
| :---: |
| $\mathrm{H}_{2}$, |
| MeOH |
| then TsOH $\cdot \mathrm{H}_{2} \mathrm{O}$ |
| r.t. |





$$
\mathrm{MeO}_{\mathrm{Me}_{2}}^{\mathrm{O}} \mathrm{O}_{\mathrm{Et}}^{\mathrm{O}} \mathrm{Cl}
$$

Please provide a reasonable mechanism for the following two transformations:





