1. Cerebrate, the Overmind requires you to propose a mechanism for the following transformation:

$$R^{1} = H, Br, Cl, F$$
 $R^{1} = H, Br, Cl, F$
 $R^{2} = H, CH_{3}$
 $R^{3} = CH_{3}O, CH_{3}, H, Cl$
 $R^{3} = CH_{3}O, CH_{3}, H, Cl$

2. God-Emperor Leto II commands you to provide a plausible mechanism for the following transformation, including a rationalization of the relative configuration: