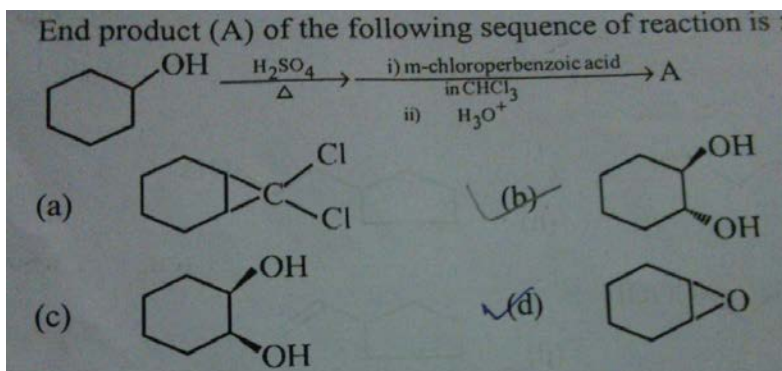
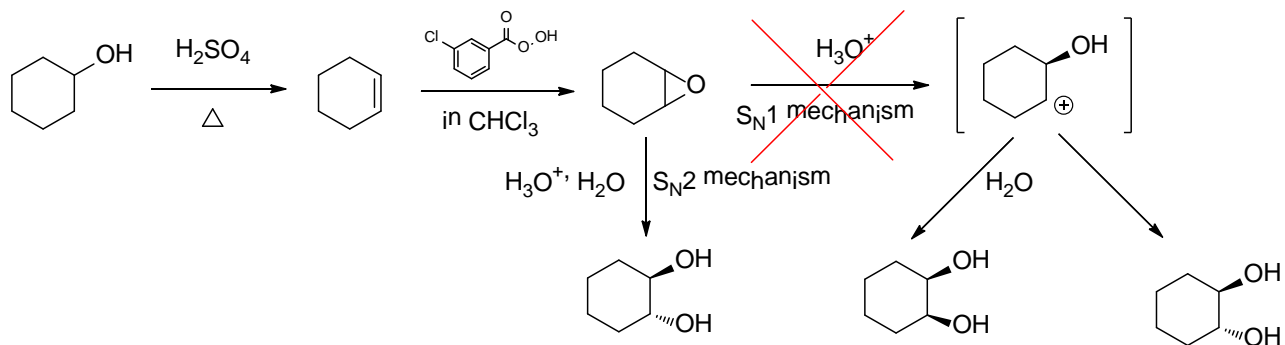


## Answer on Question #42910, Chemistry, Organic Chemistry

Question:



Answer:



The hydrolysis of epoxides can proceed via  $\text{S}_{\text{N}}1$  or  $\text{S}_{\text{N}}2$  mechanisms giving a mixture of products in one case (see scheme) and 1,2-diaxial phenol in another one. However it is known [Murphy, D.K.; Alumbaugh, R.L.; Rickborn, B. J. Am. Chem. Soc. 1969, 91, 2649; Smith, Michael B., March, Jerry March's Advanced Organic Chemistry: Reactions, Mechanisms, and Structure, Sixth Edition, p.518-519] when an epoxide ring is fused to a cyclohexane ring,  $\text{S}_{\text{N}}2$  ring opening invariably gives diaxial rather than diequatorial ring opening under acidic conditions!

So the only correct answer is (b).

