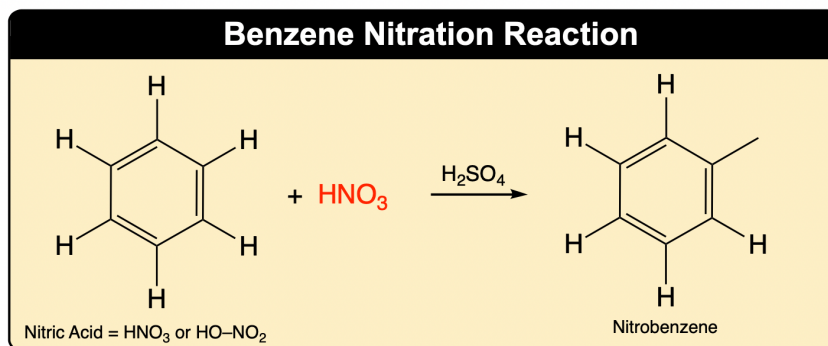


CONCEPT: BENZENE REACTION: NITRATION

- Benzene reacts with _____ acid (HNO_3) in the presence of sulfuric acid (H_2SO_4).
 - One of the ___ on benzene ring is substituted with a _____ ($-\text{NO}_2$) group.
 - A _____ (H_2SO_4) is used to activate the _____ atom of HNO_3 .



EXAMPLE: Draw the product of benzene substitution reaction with HNO_3 in the presence of H_2SO_4 .

PRACTICE: Dynamite, also known as trinitrotoluene (TNT), is made through 3 successive nitration reactions of toluene. If the nitro groups can only be added ortho or para to the methyl group of toluene, draw the structure of TNT.