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The balanced equation for the bromination of (E)-stilbene to form meso dibromide is: $C_6H_5CH=CHC_6H_5 + Br_2 \rightarrow C_6H_4BrCHCHC_6H_4Br$ $2NaOBr + H_2O \rightarrow NaBr + H_3O+$ The reaction involves the addition of bromine to the double bond of (E)-stilbene, resulting in the formation of a cyclic bromonium ion, which then attacks from the backside to form meso dibromide. For the preparation of diphenylacetylene from meso-stilbene dibromide by double E2 elimination, the balanced equation is: meso-stilbene dibromide $\rightarrow C_6H_4CH=CHC_6H_4 + Br_2$ The reaction involves the removal of a bromine atom from the meso-stilbene dibromide through a double elimination process, resulting in the formation of diphenylacetylene. The Bromination reaction was tested using an ignition test. The experiment followed a microscale protocol, utilizing smaller quantities of reagents compared to the traditional method. The reactants and materials used were: (E)-stilbene, pyridium bromide perbromide, glacial acetic acid, distilled water, acetone, and filter paper. Results showed that IR spectroscopy revealed similarities in the fingerprint region between (E)-stilbene and meso-stilbene dibromide. The only difference was the absence of the carbon-carbon double bond in the meso-stilbene dibromide. An ignition test confirmed the presence of bromide, as indicated by green flames when a portion of the product was burned. Calculations were performed to determine the limiting reagent and theoretical yield. The percent yield was found to be 31.8%. Discussion focused on the similarities in IR spectroscopy between the two substances, attributed to their aromatic ring structures. The experiment successfully produced meso-stilbene dibromide, despite a low percent yield. The synthesis of meso-stilbene required the reaction of (E)-stilbene with pyridium bromide dibromide. Initially, the temperature was incorrect at 85°C instead of the recommended 120°C. Despite this, the experiment proceeded and the solution was reheated to reach the correct temperature. The low temperature likely contributed to a poor percent yield. Analysis showed that primary peaks in both spectra indicated C=C bonds and aromatic ring structures. The hypothesis was confirmed as meso-stilbene was successfully synthesized despite initial temperature errors. Conclusion: (E)-stilbene can be brominated to produce meso-stilbene, but the reaction requires careful temperature control to achieve a higher percent yield.