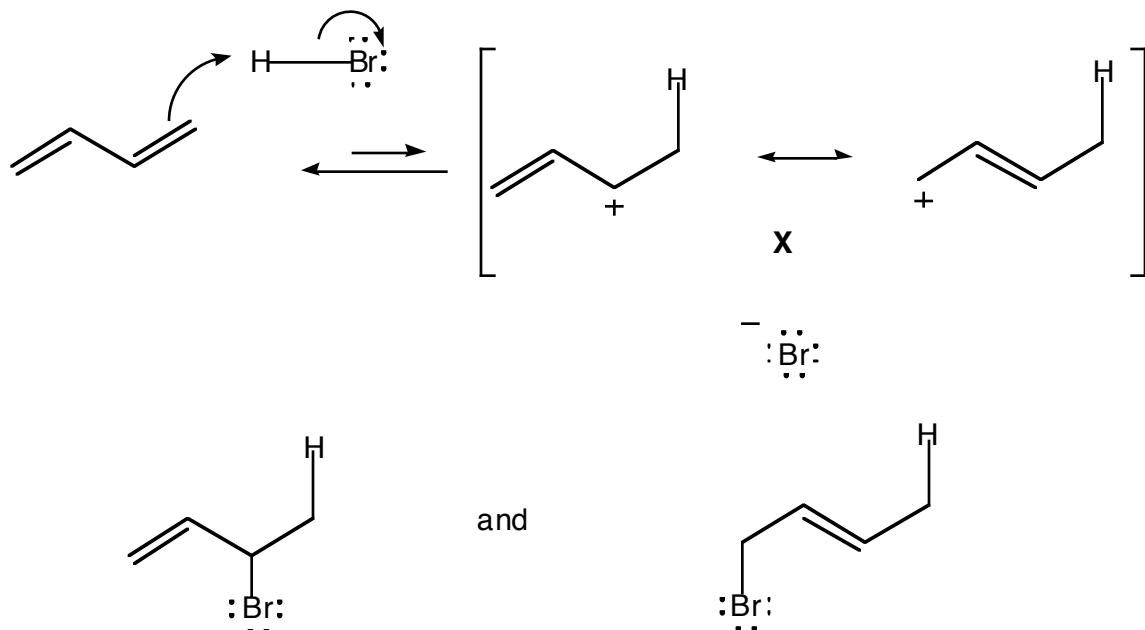
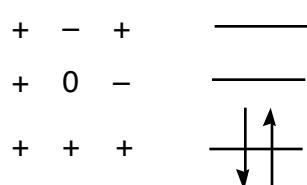


Answers to Problem 30, Chemistry 301X - 2006

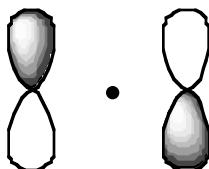


MOs of **X** (top views):

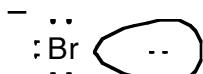


empty (LUMO)

C1 C2 C3



What is the filled orbital? It is a nonbonding orbital containing a lone pair on bromide.



What is the empty orbital? The LUMO shown above

Why are there two and only two products? Look at the LUMO-- there is a node at C2 - the only lobes available for bonding to bromide are on C1 and C3.