EQ 03.21

Upon treatment of compound G with fluorosulfonic acid (FSO_3H; a strong Brønsted acid), a rearrangement occurs to provide compound H. Given the following information, provide a complete curved arrow mechanism for the conversion of G to H. You may use H–B as a generic Brønsted acid and B:⊖ as a generic Brønsted base as necessary in your mechanism.

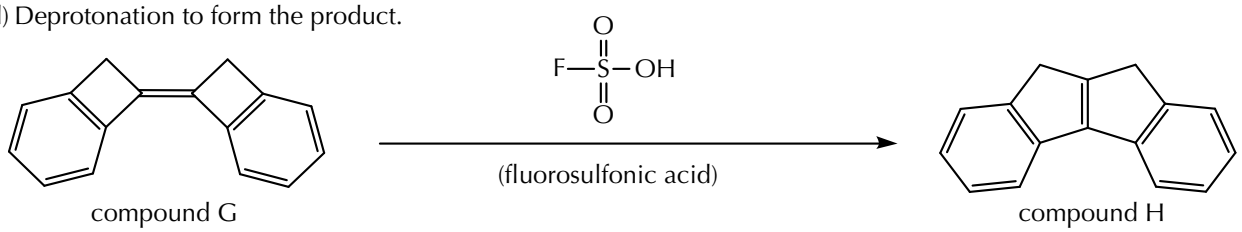
The reaction mechanism is proposed to occur in 4 steps:

(a) The alkene reacts with the strong acid to form a 3° carbocation that is delocalized.

(b) 1,2-Alkyl shift to form a 2° carbocation that is delocalized.

(c) 1,2-Alkyl shift to form a 3° carbocation that is not delocalized.

(d) Deprotonation to form the product.



compound G

compound H