Stereoselective Synthesis of \( \text{syn-} \beta\text{-Hydroxy-} \alpha\text{-vinyl Carboxylate Esters} \)

**Significance:** The authors report a novel enantio- and diastereoselective synthesis of \( \text{syn-} \beta\text{-hydroxy-} \alpha\text{-vinyl carboxylate esters} \). The reaction proceeds via a reductive aldol reaction of an ethyl allenecarboxylate with 10-TMS-9-borabicyclo[3.3.2]decane. DFT calculations suggest that the allene hydroboration involves a 1,4-reduction of the ethyl allenecarboxylate with 10-TMS-9-borabicyclo[3.3.2]decane.

**Comment:** The exclusive formation of \( \text{syn-} \beta\text{-hydroxy-} \alpha\text{-vinyl carboxylate esters} \) can be explained by an aldol reaction via a chair-like transition state. DFT calculations suggest that the allene hydroboration involves a 1,4-reduction of the ethyl allenecarboxylate with 10-TMS-9-borabicyclo[3.3.2]decane.