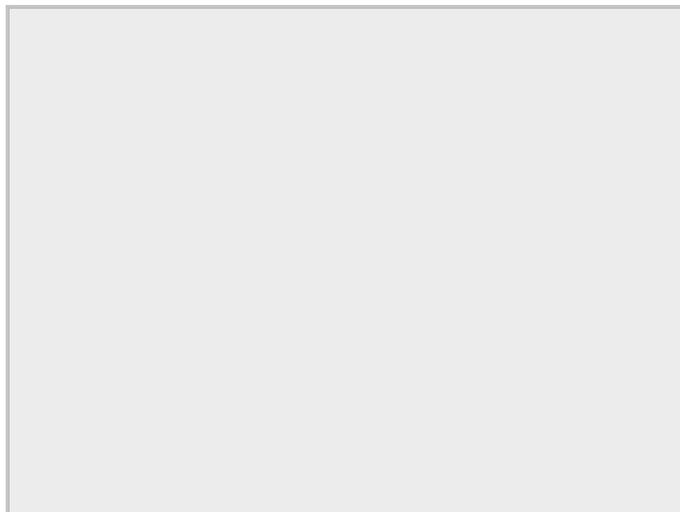


## 14.8: The Carbon–Carbon $\sigma$ Bond Length in 1,3-Butadiene

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The conjugated diene has 2 double bonds with one single C-C bond between them. This structure offers stability because the two pi bonds can transfer electrons through the two carbons that are  $sp^2$  hybridized with a single bond which results in electron delocalization. Extended [P orbital](#) sharing makes this diene more stable than the isolated dienes. The more stable molecule also has lower energy and a shorter bond length.



### Contributors

- Natasha Singh

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