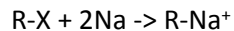


**Q) Why is Wurtz reaction used for the production of symmetric alkanes only?**

**Answer:**

Mechanism of the simple Wurtz reaction.



This  $\text{R}^-$  joins the 'R' from another R-X molecule and the  $(\text{Na})^+$  joins the X part giving  $\text{R-R} + \text{NaX}$ . Thus you are able to create only symmetric alkanes. If you use two different alkyl halides then a mixture with small percentage of unsymmetrical alkanes are produced.

However, because of their very similar boiling points and their physical properties they cannot be separated and thus Wurtz reaction is not good for producing unsymmetrical alkanes.