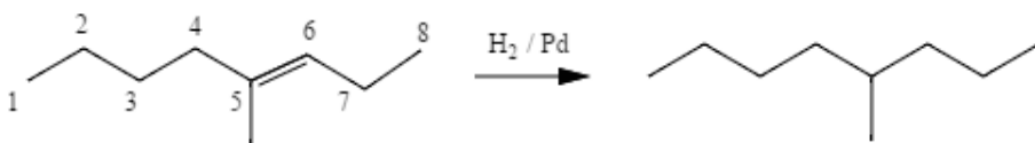


### Answer on the Question #65314, Chemistry / General chemistry

The figure shows a scheme of the hydrogenation reaction. The reactant structure is given as the chain of eight bonded carbon atoms. There is a double bond between the fifth and the sixth carbon atoms when counting from the left. Also a -CH<sub>3</sub> group is attached below the fifth carbon atom. This hydrogenation is performed by using H<sub>2</sub> and a palladium catalyst. Write the product.

#### Answer:

The main principle of hydrogenation reaction is reduction of double bond between 5<sup>th</sup> and 6<sup>th</sup> carbon atoms:



Name of the product is 4-methyloctane, because numeration of longest carbon chain starts at the end nearest substituent group.<sup>1</sup>

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<sup>1</sup> Nomenclature of Organic Chemistry: Sections A, B, C, 3rd ed.; Butterworths: London, 1971.