Question

On monochlorination of 2,2,3,3-tetramethylbutane, the number of isomers formed is

- A) 2
- B) 3
- C) 4

D) 1

Please explain.

Answer

The correct option is D) 1

2,2,3,3-tetramethylbutane involves two tertiary carbons by which substitution is impossible, and six primary carbons, by any of which chlorination can occur. These six carbons are identical, and the monochlorination results in the same product, no matter to which carbon atom the chlorine attaches:



2,2,3,3-tetramethylbutane

1-chloro-2,2,3,3-tetramethylbutane

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