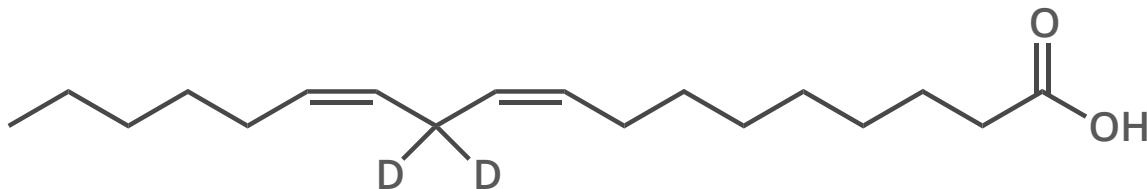


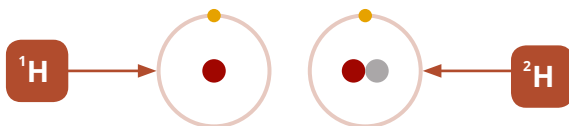
DEUTERATED FATTY ACIDS

We obtain polyunsaturated fatty acids (PUFAs) from our diet, and they are found in cell membranes. Their oxidation can lead to potential problems, so chemists are looking at ways of preventing this.



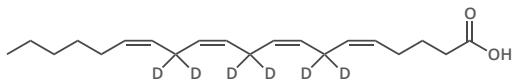
11,11- d_2 -LINOLEIC ACID, A DEUTERATED UNSATURATED FATTY ACID

WHAT DOES 'DEUTERATED' MEAN?



KEY: ● PROTON ● NEUTRON ● ELECTRON

Deuterium is a hydrogen atom with a neutron also added to the nucleus. It is represented by the symbol D, or ^2H , and accounts for a very small proportion of the natural abundance of hydrogen.



Deuterated compounds have deuterium atoms in place of some of the hydrogen atoms. By deuterating polyunsaturated fatty acids (PUFAs), reactive parts of the molecule can be protected.

USES OF DEUTERATED PUFAS



Tests on yeast show small additions of deuterated PUFAs help prevent cell death due to oxidation.



Oxidation of PUFAs is thought to play a role in Parkinson's disease. D-PUFAs diminished degeneration in mice.



D-PUFAs are in human clinical trials for the treatment of the nervous system disorder, Friedreich's ataxia.



D-PUFAs could be used to treat some retina diseases, as some of these could be due to destruction of retina lipids.