



Deuterated phosphine (PD_3)

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Field strength: 162 MHz

Why is this your favorite spectrum?

A simple compound with a beautiful splitting pattern. PD_3 gives a non-binomial septet due to the phosphorus center coupling to three equivalent spin $I=1$ deuterium atoms. PD_3 is not particularly useful, but we were able to make small amounts of it controllably in a sealed NMR tube to prove that the silane (Et_3SiD in this case) was the active reducing agent in the reaction (see DOI: 10.1021/acs.inorgchem.8b01578).