Exercise: Identify the H-H and Si-H coupling in vinyltriphenylsilane.
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\[ C_{20}H_{18}Si \]

300 MHz \(^1\)H NMR spectrum in CDCl\(_3\)

Source: Aldrich Spectra Collection/Reich g

\[ H_2\]

\[ H_9 \]

\[ SiPh_3 \]

\[ H_c \]

\[ H_t \]

\[^3J_{HH}(cis) = 14.7\text{ Hz}\]

\[^3J_{HH}(trans) = 20.2\text{ Hz}\]

\[^2J_{HH}(gem) = 3.7\text{ Hz}\]

\[^2J_{HH}(cis) = 14.3\text{ Hz}\]

\[^3J_{HH}(trans) = 20.2\text{ Hz}\]

\[^2J_{HH}(gem) = 3.7\text{ Hz}\]

\[^3J_{H-Si} (gem) = 6.2\text{ Hz}\]

\[^3J_{H-Si} (trans) = 16.5\text{ Hz}\]

\[^3J_{H-Si} (cis) = 8.4\text{ Hz}\]