ROTATIONAL SPECTROSCOPY OF THE CCCCl RADICAL

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Pure rotaional spectra of the CCCCl radical in a supersonic jet have been observed for the first time by FTMW spectroscopy. The radical was produced in a pulsed electric discharge of C_2H_2 and CCl_4 diluted to 0.6 and 0.3 % with Ar, respectively. Transitions with spin splittings and hyperfine splittings were observed for the two isotopomers, $CCC^{35}Cl$ and $CCC^{37}Cl$, in the region from 11.3 GHz for N = 2-1 to 33.8 GHz for N = 6-5. The molecular constants including the hyperfine constants due to the Cl nucleus have been precisely determined.