ROTATIONAL SPECTRUM AND STRUCTURE OF THE 1-ALKENES [$H_2C{=}CH(C_nH_{2n+1})$ n=3−6]

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The microwave spectra of the 2 conformers skew and cis of 1-pentene, 1-hexene, 1-heptene and 1-octene have been observed and assigned for the first time using a pulsed-beam Fabry-Perot cavity microwave spectrometer. The a-, b- and c-type transitions were observed and the rotational constants in the ground state were found for the different species. Information on the equilibrium geometry of these molecules was extracted from the values obtained for the rotational constants.