ALPHA-AMINO ACIDS IN GAS-PHASE: JET-COOLED ROTATIONAL SPECTRA OF LEUCINE, ISOLEUCINE AND 2-AMINOBUTIRIC ACID

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The conformational behaviour of the aliphatic α-amino acids leucine, isoleucine and 2-aminobutyric has been studied for the first time in gas-phase, continuing our recent studies on coded amino acids[a, b, c, d]. The solid amino acids were vaporized using laser ablation (LA) from a Q-switched Nd:YAG laser, and probed spectroscopically in a supersonic jet using molecular-beam Fourier transform microwave spectroscopy (MB-FTMW)[e]. The investigation of the jet-cooled rotational spectrum of the neutral forms of these amino acids revealed the presence of several conformers in the gas phase. The side chain is not affecting the conformational preferences of the amino acids, still dominated by the hydrogen bond interactions within the amino acid skeleton.

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