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标题: High-Resolution THz Spectra of Six Biological and Pharmaceutical Materials
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摘要: The temperature dependent vibrational spectra of three biological and pharmaceutical sets, genistein and biochanin A, clenbuterol hydrochloride and salbutamol, as well as ginseng R2 and R3, in the range of 0.2 similar to 4.5 THz (6.6 similar to 150.0 cm(-1)) are presented over the temperature range from 295 to 77 K. Although there are only some minor difference in their molecular structures, the spectra of two samples in every group are quite differences in both absorption band positions and their relative intensities, and display strong linewidth narrowing and frequency blue-shift with cooling. Au 77 K, 13 highly resolved spectral features for biochanin A were obtained and the sensitivity of the experiment allows detection of amounts as small as 1.9X10(-5) mol of ginseng R3. Such high-resolution THz fingerprint spectra provide a rapid, nondestructive and reliable method for the identification of these pharmaceutical settings molecules.
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