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标题: Wide Range Broadband Terahertz Emission From High chi((2)) Dendrimer
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摘要: Electro-optic dendrimer was used to generate CW terahertz radiation via difference frequency method. In case of electro-optic excitation, the pump-THz conversion is not limited either by emission saturation or by heat dissipation. Especially, the difference frequency generation (DFG) uses two-photon excitation that eliminates the use of a femto-second pulsed laser and allows for producing both continuous wave (CW) and pulsed terahertz radiation. This report outlines a wideband terahertz spectrometer that is designed around an EO dendrimer terahertz source. This source allows for a wide terahertz range and higher output power. The spectrometer (TeraSpectra) was calibrated with a polyethylene card. It was found that the TeraSpectra reproduces known absorbance peaks of polyethylene with many additional peaks not discovered before. The main origin of these additional peaks is from the fact that the TeraSpectra is sensitive to many resonances possible in a molecule.
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