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Title:Label-free monitoring of interaction between DNA and oxaliplatin in aqueous solution by terahertz spectroscopy
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Abstract:We demonstrated the feasibility of applying terahertz time-domain spectroscopy (THz-TDS) to monitor the molecular reactions in aqueous solutions of anticancer drug oxaliplatin with λ-DNA and macrophages DNA. The reaction time dependent refractive index and absorption coefficient were extracted and analyzed. The reaction half-decaying time of about 4.0 h for λ-DNA and 12.9 h for M-DNA was established. The results suggest that the THz-TDS detection could be an effective label-free technique to sense the molecular reaction in aqueous solutions and could be very useful in biology, medicine, and pharmacy industry. © 2012 American Institute of Physics.
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