CONSTRUCTION OF A RAMAN TWEEZER SYSTEM FOR INVESTIGATION OF BIOLOGICAL MOLECULES[a]

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Raman spectroscopy has been widely used in providing detailed analysis of a variety of biological samples. The combination of laser tweezer[b] with Raman spectroscopy has allowed to get the Raman spectrum of a single living cell without causing any damage within their natural environment [c]. We have constructed a Raman tweezer system. In our set-up a temperature and current controlled 785 nm diode laser was employed for tweezing of micro particles in an aqua solution by using a high NA microscope objective. The same laser was also used for Raman excitation. We present here preliminary results of Raman spectra of some biological molecules and polystyrene micro spheres as test objects taken with our experimental set-up.

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