Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Unraveling the Dynamic Nature of Protein–Graphene Oxide Interactions

Somnath Mondal,[1,2] Ravula Thirupatha [1,2], Lokeshwara P. Rao[1,3] and Hanudatta S. Atreya[1,2*]

[1] NMR Research Centre,

[2]Solid State and Structural Chemistry Unit and [3]Department of Physics,

Indian Institute of Science, Bangalore-560012, India

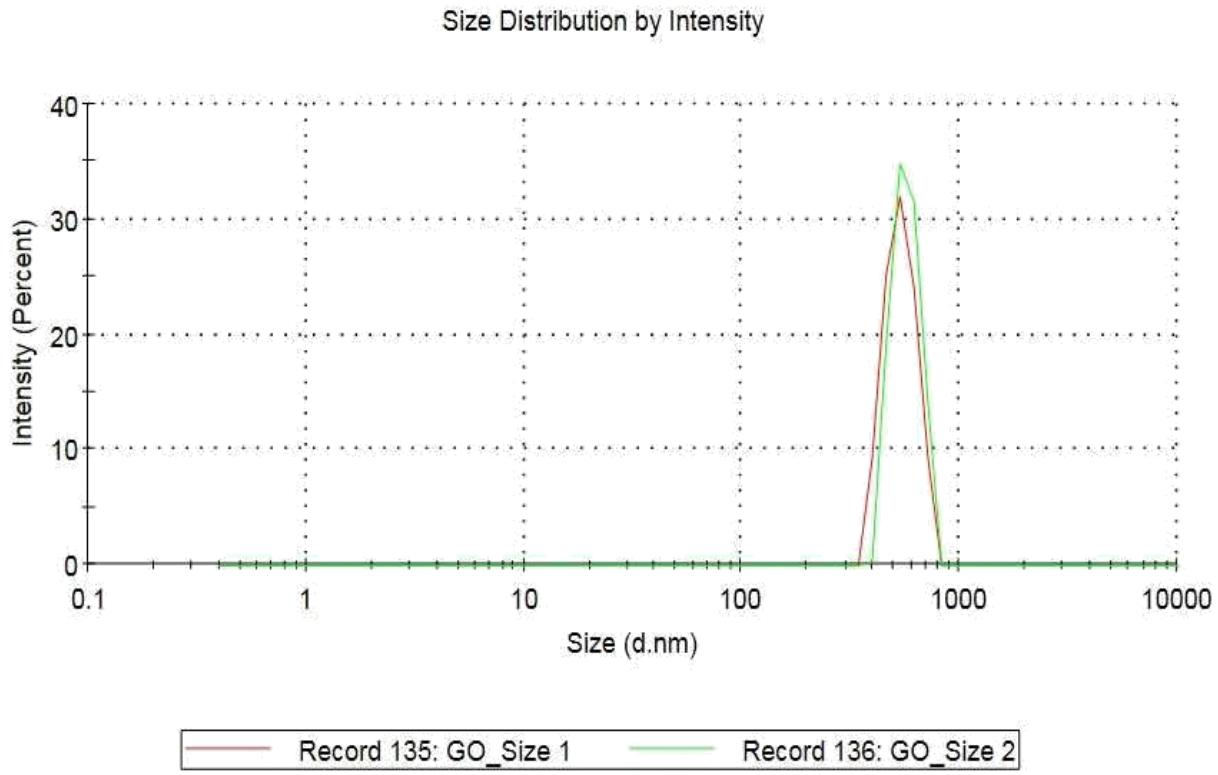

Figure S1. DLS study of free GO (shown in green) superimposed with that of GO-ubiquitin complex (red), indicating no significant change in size of the system upon forming complex.

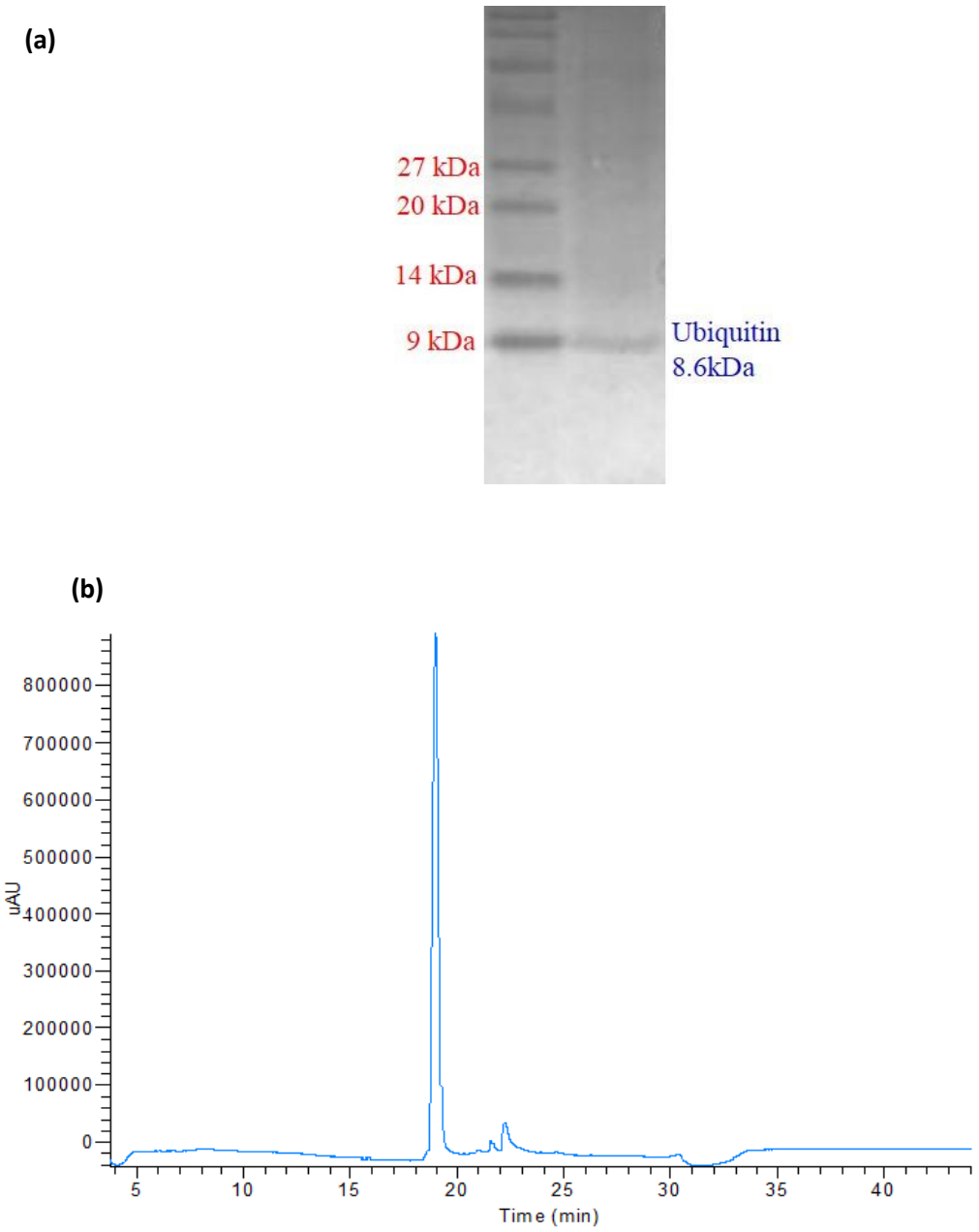

Figure S2. The purity of the protein sample was checked by (a) SDS-PAGE and (b) The HPLC profile. In (b) the elution was carried out on a Thermo Finnigan HPLC system using a Synchronis C18 column of particle size 5µ. The protein was eluted using the gradient method involving 0.1% aq Trifluoroacetic acid (TFA) and 0.08% TFA in acetonitrile. The total run time was 45 minutes and the protein was detected using a PDA detector.

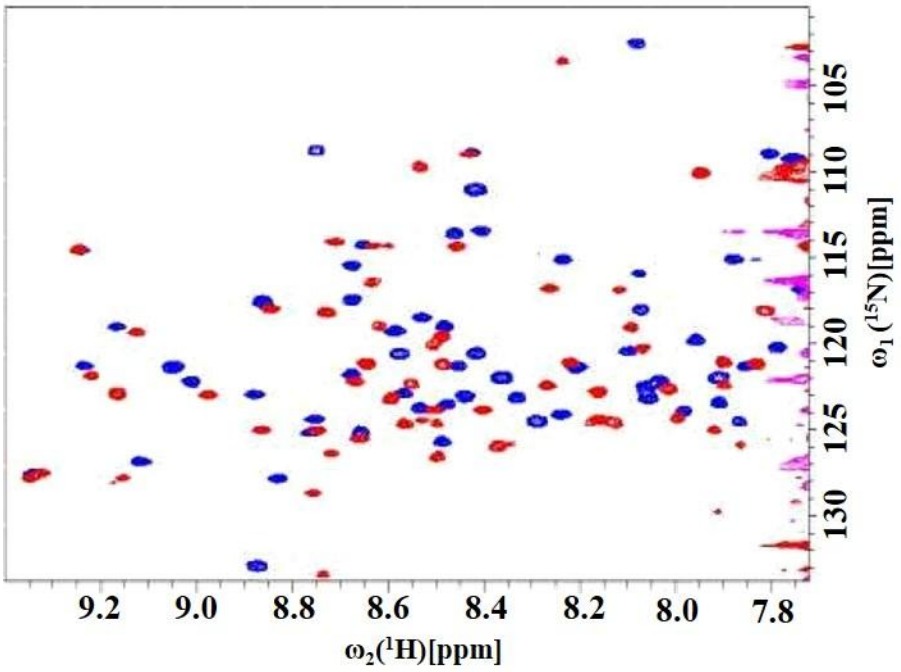

Figure S3: Overlay of 2D [^{15}N, ^{1}H] HSQCs of free Ubiquitin at pH 6.0 (Blue) with the free Ubiquitin at pH 4.0 (Red) indicating that while the chemical shifts have changed owing to change in pH, the protein has not undergone degradation.