## Chitosan nanoparticles functionality as redox active drugs through cytotoxicity radical scavenging and cellular behavior.

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Figure S1- FTIR Spectra of chitosan nanoparticles, chitosan and TPP. b) Zeta-potential of chitosan nanoparticles c) Size distribution of chitosan nanoparticles with size centered at 133 nm d) TEM images of chitosan nanoparticles.



Figure S2. (a) – (d) Bright-field imaging of acute lymphoblastic leukemia cells at time point 0 minutes, 30 minutes, 4 hours and 24 hours respectively. (e) – (h) Fluorescence microscopy(20x magnification) images showing, that cellular uptake of FITC-labelled chitosan nanoparticles increased with time at 0 minutes, 30 minutes, 4 hours and 24 hours respectively.



Figure S3. (a) – (d) Bright-field imaging of acute lymphoblastic leukemia cells at time point 0 minutes, 30 minutes, 4 hours and 24 hours respectively. (e) – (h) Fluorescence microscopy (20x magnification ) images showing, that cellular uptake of FITC-labelled chitosan nanoparticles with time at 0 minutes, 30 minutes, 4 hours and 24 hours respectively



Figure –S4 . Morphology of RBCs (blood smear) (bright field images at 20X)a) Control b) with chitosan polymer c) with chitosan nanoparticles.



Figure –S5 .Phase imaging( 20x magnification). of chitosan nanoparticles only.