Supplementary Information

Taurine Conjugated Mussel Inspired Iron Oxide Nanoparticles with Elongated Shape for Effective Delivery of Doxorubicin into the Tumor Cells

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Figure S1: EDX spectra showing the elemental composition of A. Fe$_3$O$_4$ nanoparticles, B. pDA - Fe$_3$O$_4$ nanoparticles, C. T-pDA-Fe$_3$O$_4$ nanoparticles and (D-F) elemental mapping of the nanoparticles.
Figure S2: Fitted spectra of A. Fe2p, B. O1s of bare Fe₃O₄ nanoparticles, C. C1s, D. N1s of pDA-Fe₃O₄ nanorods E. C1s, F. N1s and G. S2p peaks of T-pDA-Fe₃O₄ nanorods.
**Figure S3:** DLS spectra showing the size distribution of A. Fe$_3$O$_4$ nanoparticles, B. pDA-Fe$_3$O$_4$ nanorods and C. T-pDA-Fe$_3$O$_4$ nanorods. The samples are prepared in deionised water at pH 7.0.
Table S1: Different binding energy observed from XPS showing various functional
groups with calculated area %.

| Sample       | Functional Groups | Binding Energy | Area % |
|--------------|-------------------|----------------|--------|
| Fe₃O₄        | Fe-O              | 529.3          | 55.1   |
|              | Fe-OH             | 530.2          | 44.9   |
| pDA-Fe₃O₄   | C-C               | 284.4          | 45.9   |
|              | C-N               | 285.1          | 46.8   |
|              | C=O               | 287.2          | 7.3    |
|              | R-NH₂             | 399.7          | 40.1   |
|              | R-NH-R            | 400.7          | 59.9   |
| T-pDA-Fe₃O₄ | C-C               | 284.2          | 30.3   |
|              | C-N/C-S           | 285            | 49.1   |
|              | C=O               | 287.2          | 12.6   |
|              | R-NH₂             | 399.2          | 41.2   |
|              | R-NH-R            | 400.7          | 58.8   |
|              | SO₃H              | 167.2          | 45.7   |