

Supporting Information

Zn²⁺ cross-linked sodium alginate-g-allylamine-mannose polymeric carrier on rifampicin for macrophage targeting tuberculosis nanotherapy

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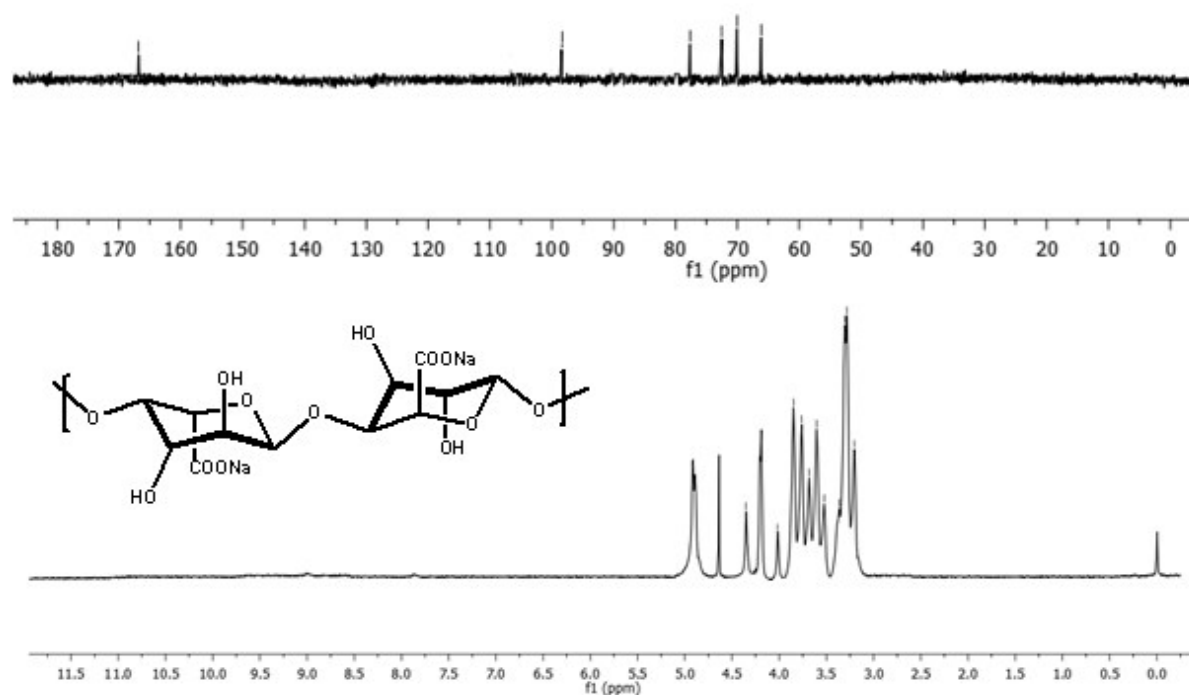
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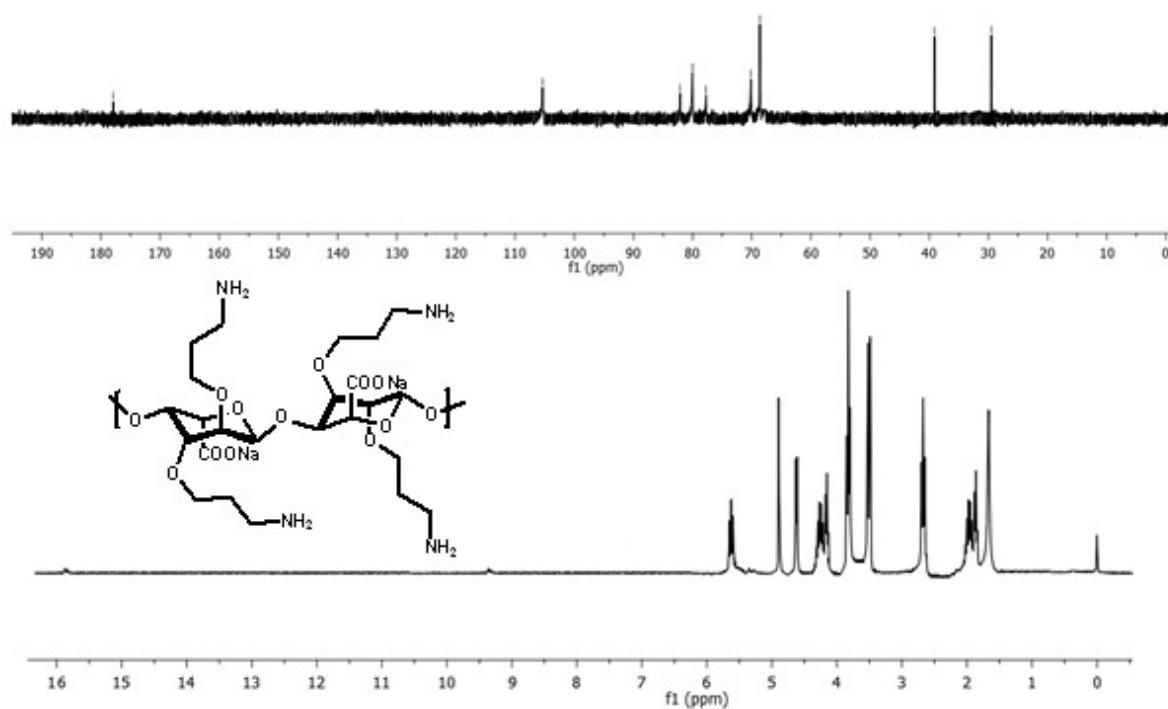
NMR analyses



S. Figure. 1. ^{13}C and ^1H NMR spectrum of sodium alginate (SA)

SA ^{13}C NMR: 67.2, 70.3, 73.5, 78.0, 99.3, 167.0

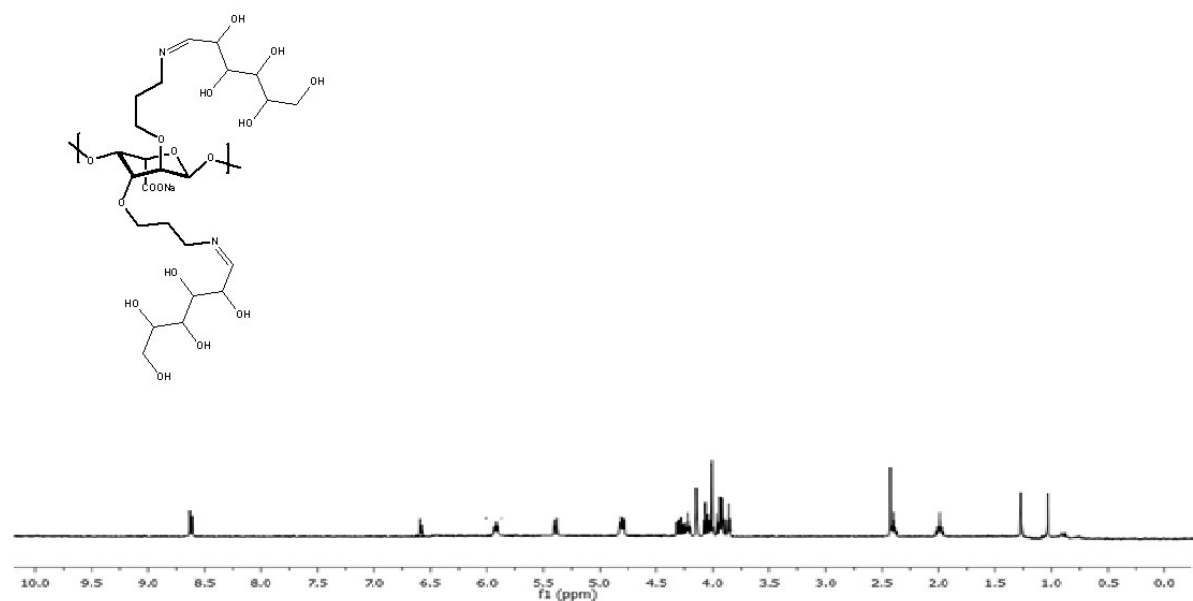
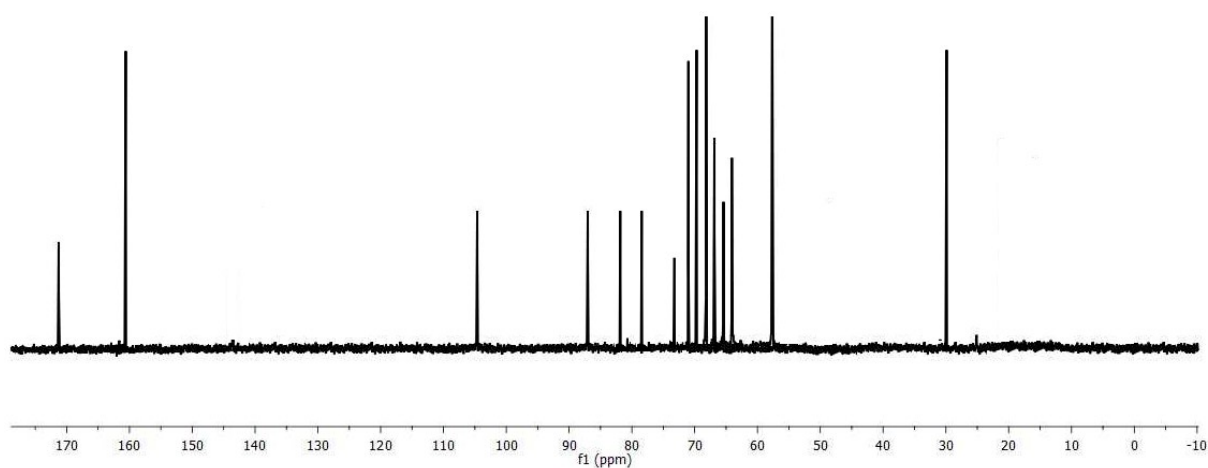
SA ^1H NMR: 4.99 (d, 1H), 4.32 (s, 1H), 4.23 (d, 1H), 4.19 (S, 1H), 3.43 (m, 1H), 3.21 (m, 1H)



S. Figure. 2. ^{13}C and ^1H NMR spectrum of sodium alginate grafted allylamine (SA-g-AA)

SA-g-AA ^{13}C NMR: 178.1, 106.3, 83.1, 81.4, 79.2, 72.1, 69.3, 39.5, 30.3.

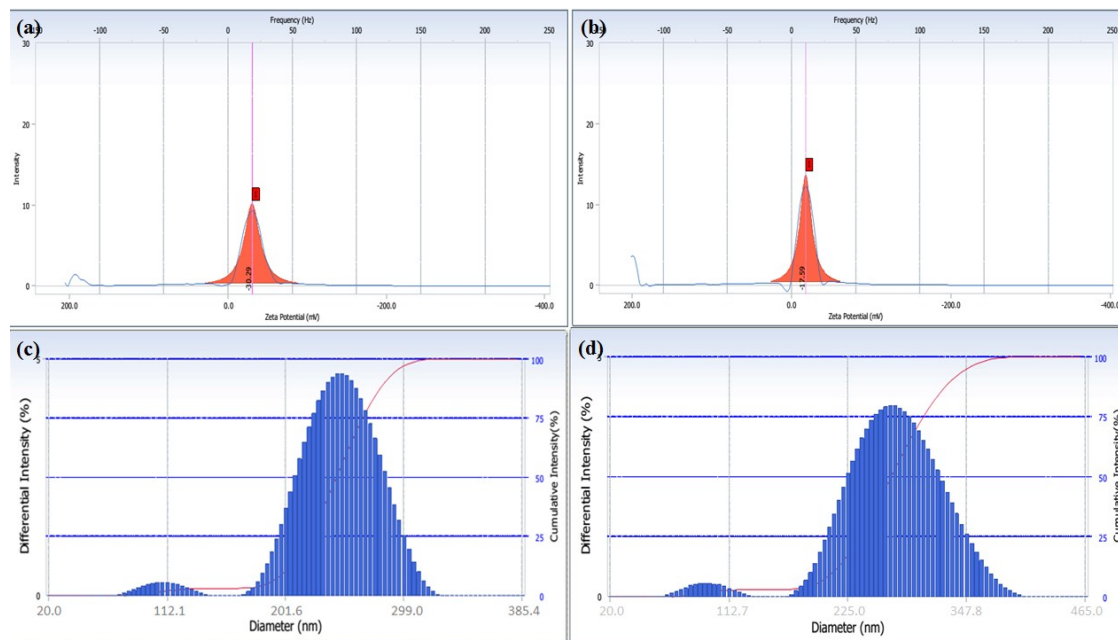
SA-g-AA ^1H NMR: 5.56 (d, 1H), 4.62 (s, 2H), 4.32 (m, 1H), 3.82 (m, 1H), 3.62 (m, 2H), 2.65 (m, 2H), 2.11 (m, 2H), 1.72 (s, 1H)



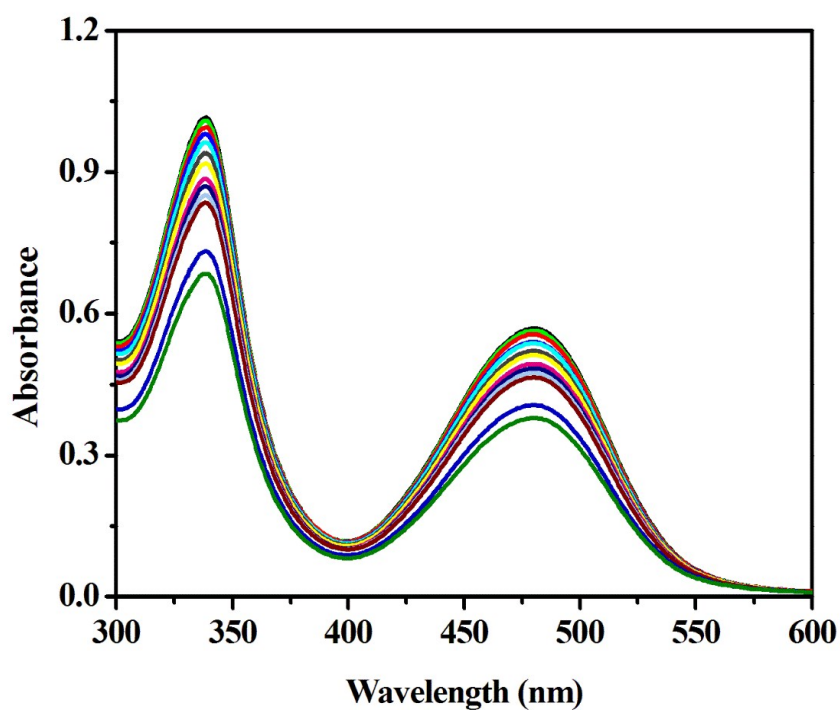
S. Figure. 3. ^{13}C and ^1H NMR spectrum of sodium alginate grafted allylamine-mannose (SA-g-AA-M)

SA-g-AA-M ^{13}C NMR: 173.2, 162.4, 109.2, 87.4, 82.5, 78.4, 74.1, 73.0, 72.4, 69.2, 68.2, 67.5, 66.1, 64.2, 57.1, 30.0

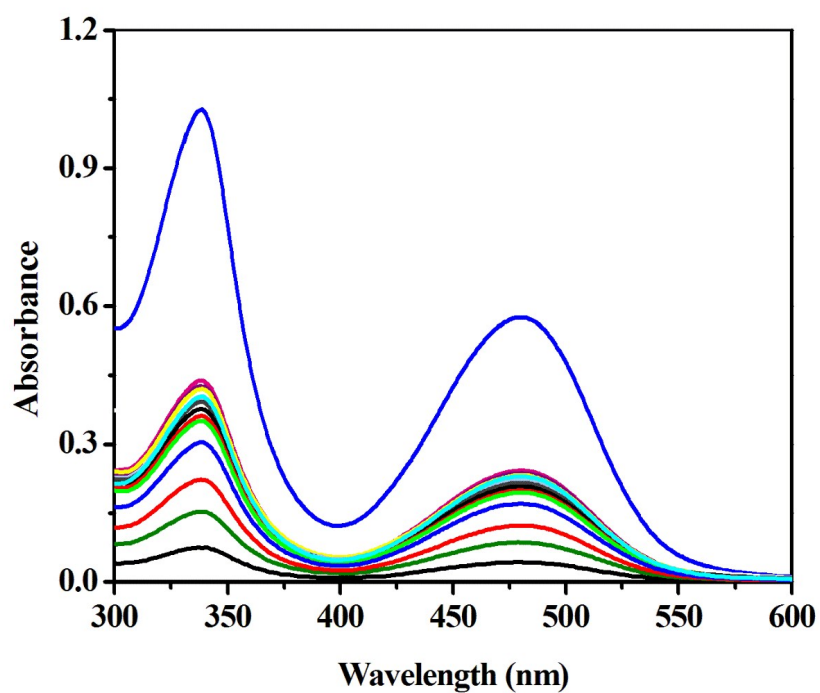
SA-g-AA-M ^1H NMR: 8.69 (d, 2H), 6.61 (d, 2H), 5.88 (d, 2H), 5.35 (d, 1H), 4.72 (m, 1H), 4.30 (m, 1H), 4.11 (m, 2H), 3.9 (m, 2H), 3.82 (m, 2H), 2.41 (s, 1H), 2.30 (m, 2H), 2.0 (m, 1H), 1.25 (s, 1H),



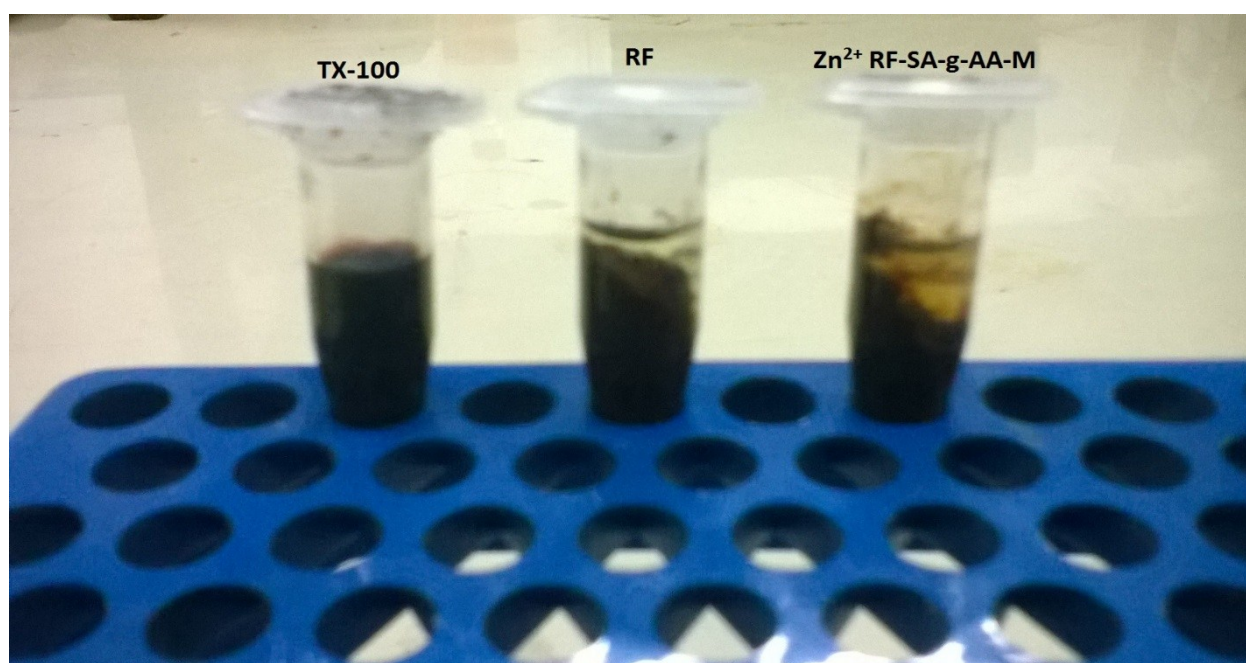
S. Figure. 4. Zeta potential of (a) Zn^{2+} /SA-g-AA-M, (b) Zn^{2+} RF-SA-g-AA-M. Particle size of (c) Zn^{2+} /SA-g-AA-M (d) Zn^{2+} RF-SA-g-AA-M.



S. Figure. 5. In vitro drug release behaviour of Zn^{2+} RF-SA-g-AA-M at pH 5.3



S. Figure. 6. In vitro drug release behaviour of Zn^{2+} RF-SA-g-AA-M at pH 7.4



S. Figure. 7. Hemolysis assay. RF and Zn^{2+} RF-SA-g-AA-M were added to the blood samples at concentration of $100 \mu\text{g/ml}$. Triton X 100 served as a positive control.