Supplementary Materials

Synthesis of conjugates of PEG-RGD derivative with Fe_3O_4 magnetic nanoparticles for cell labelling

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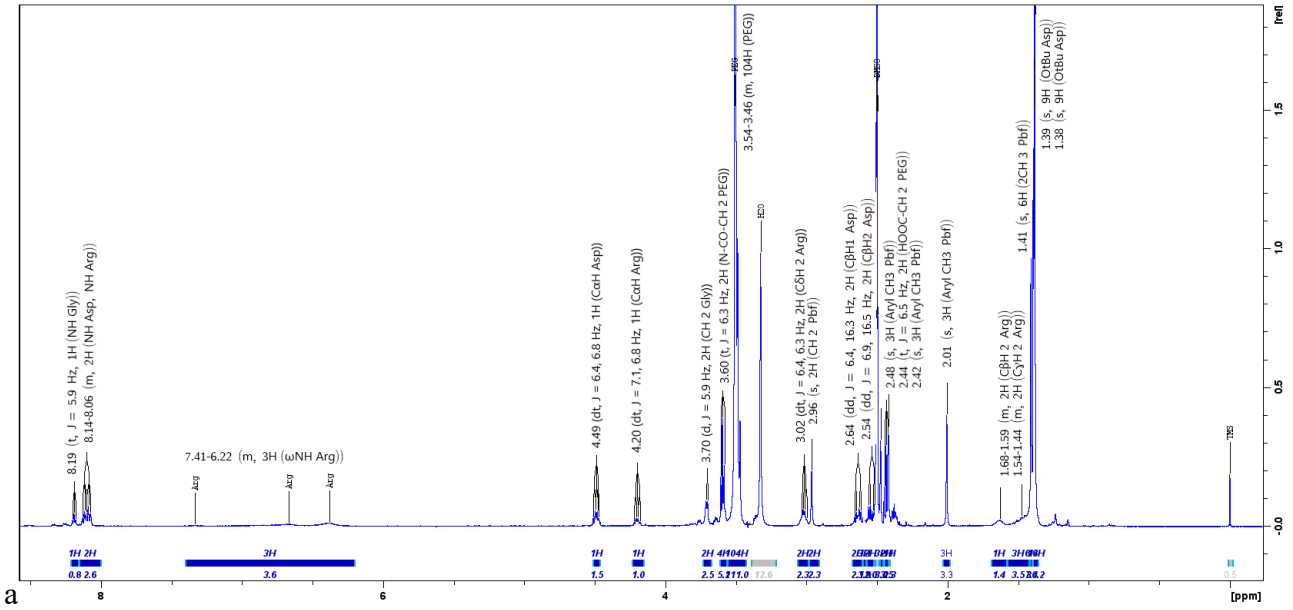
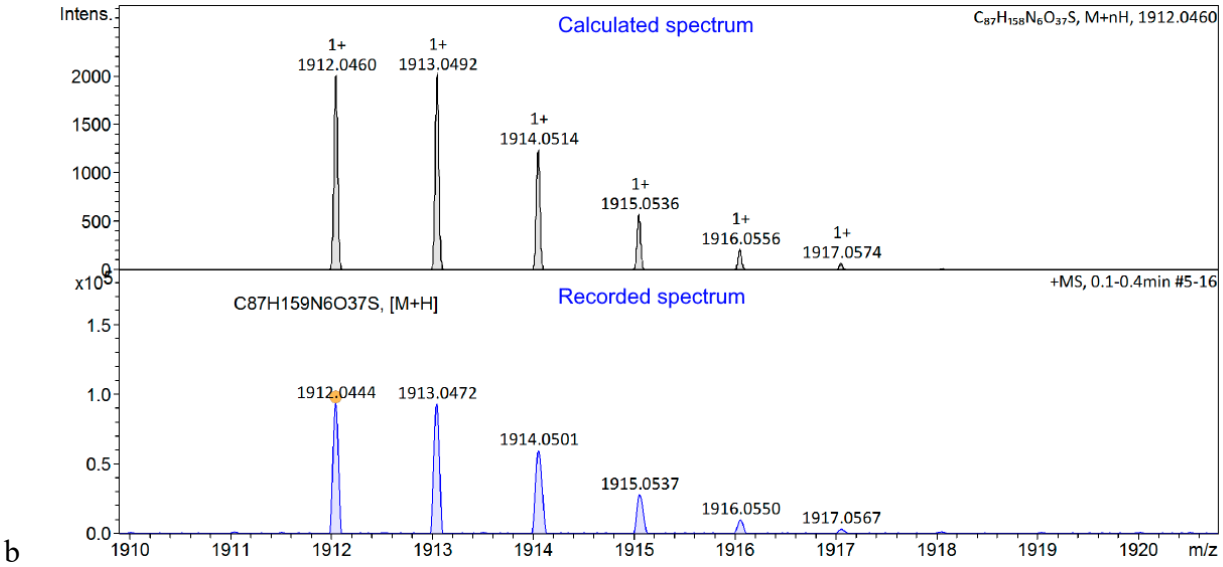


a



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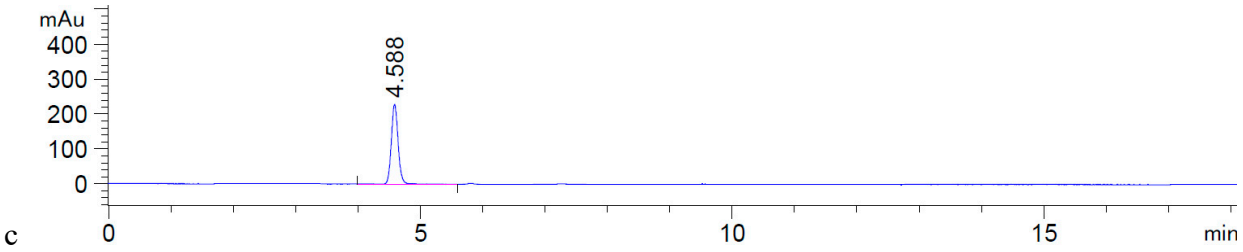
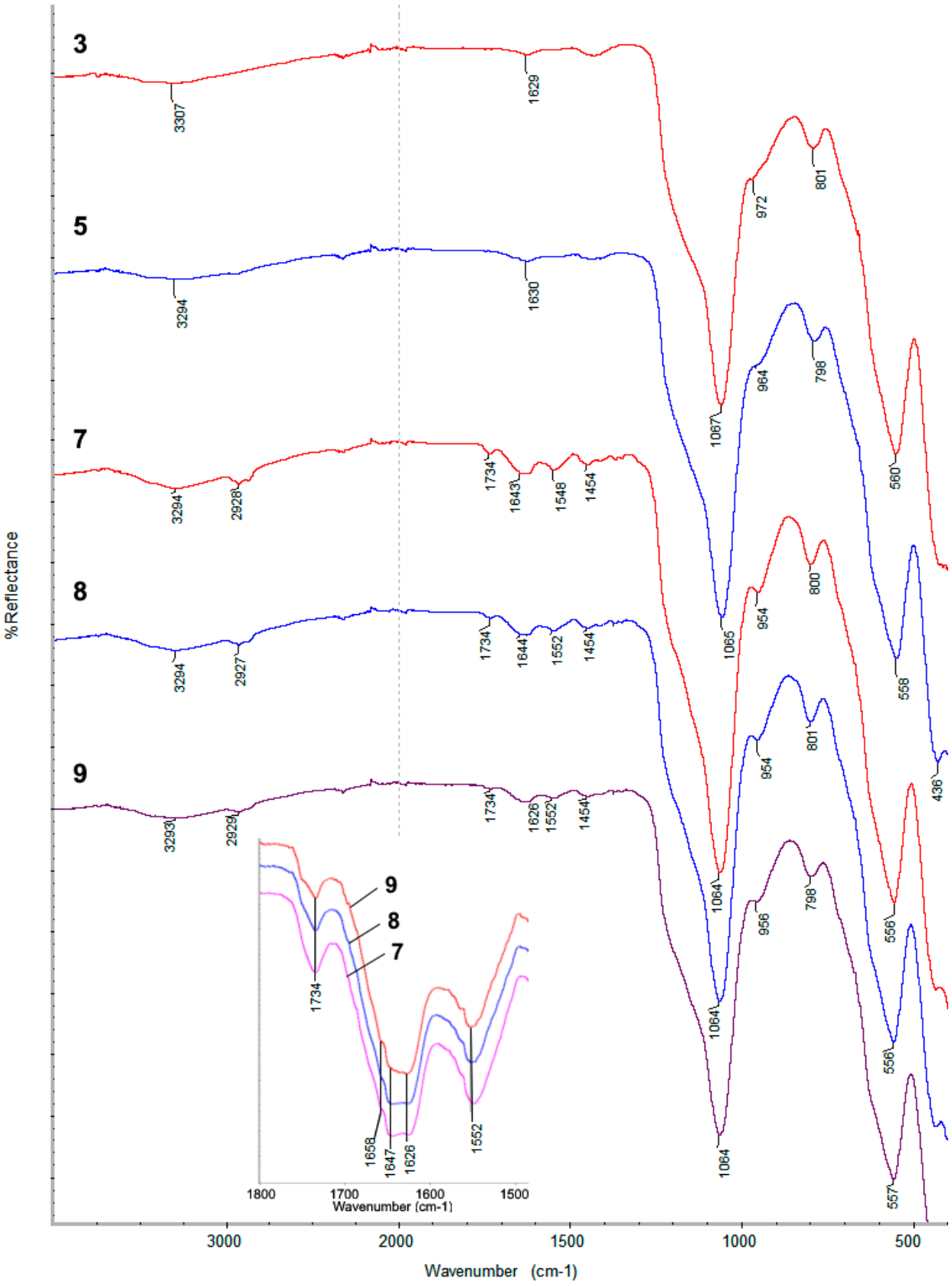
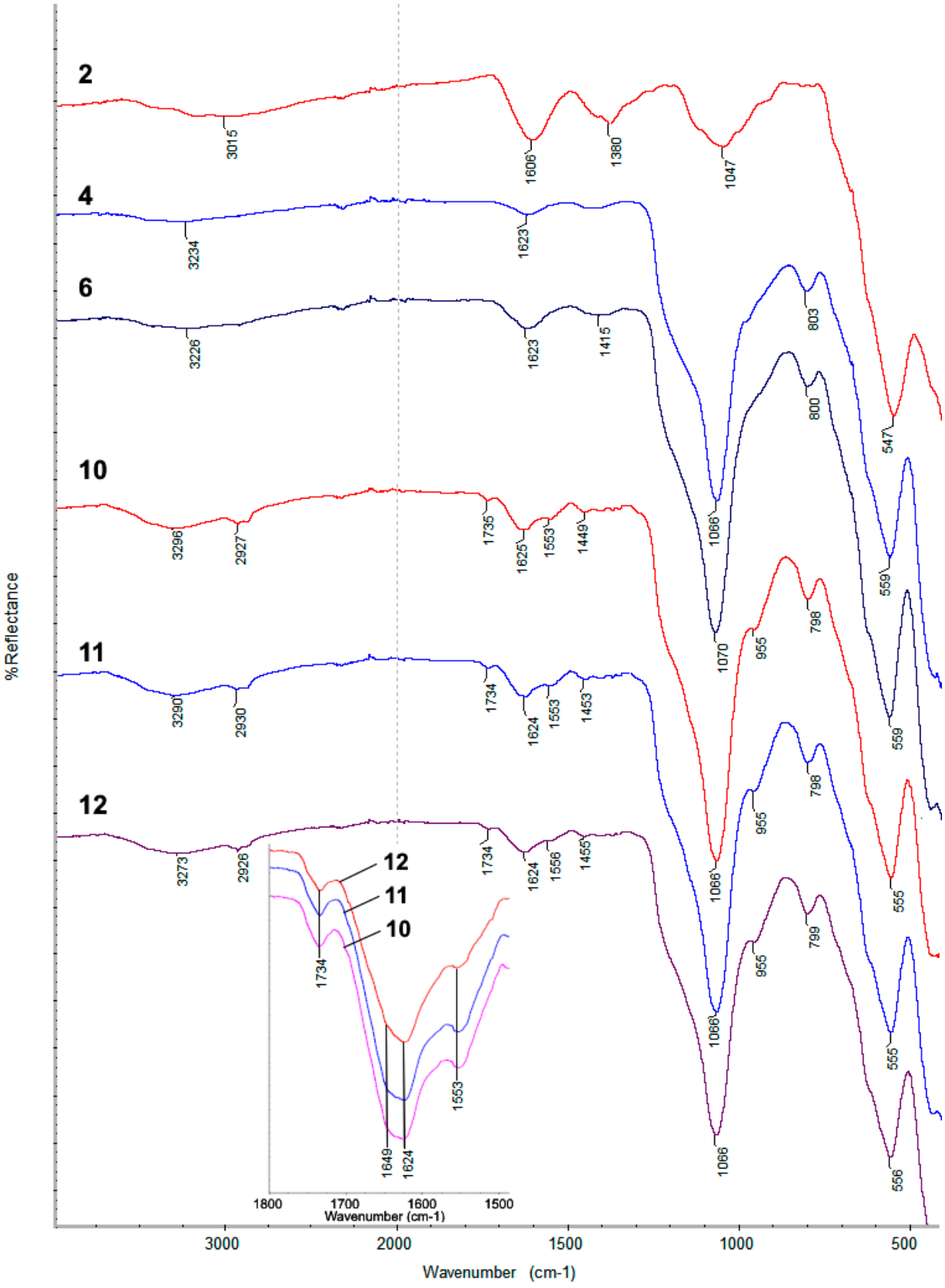


c

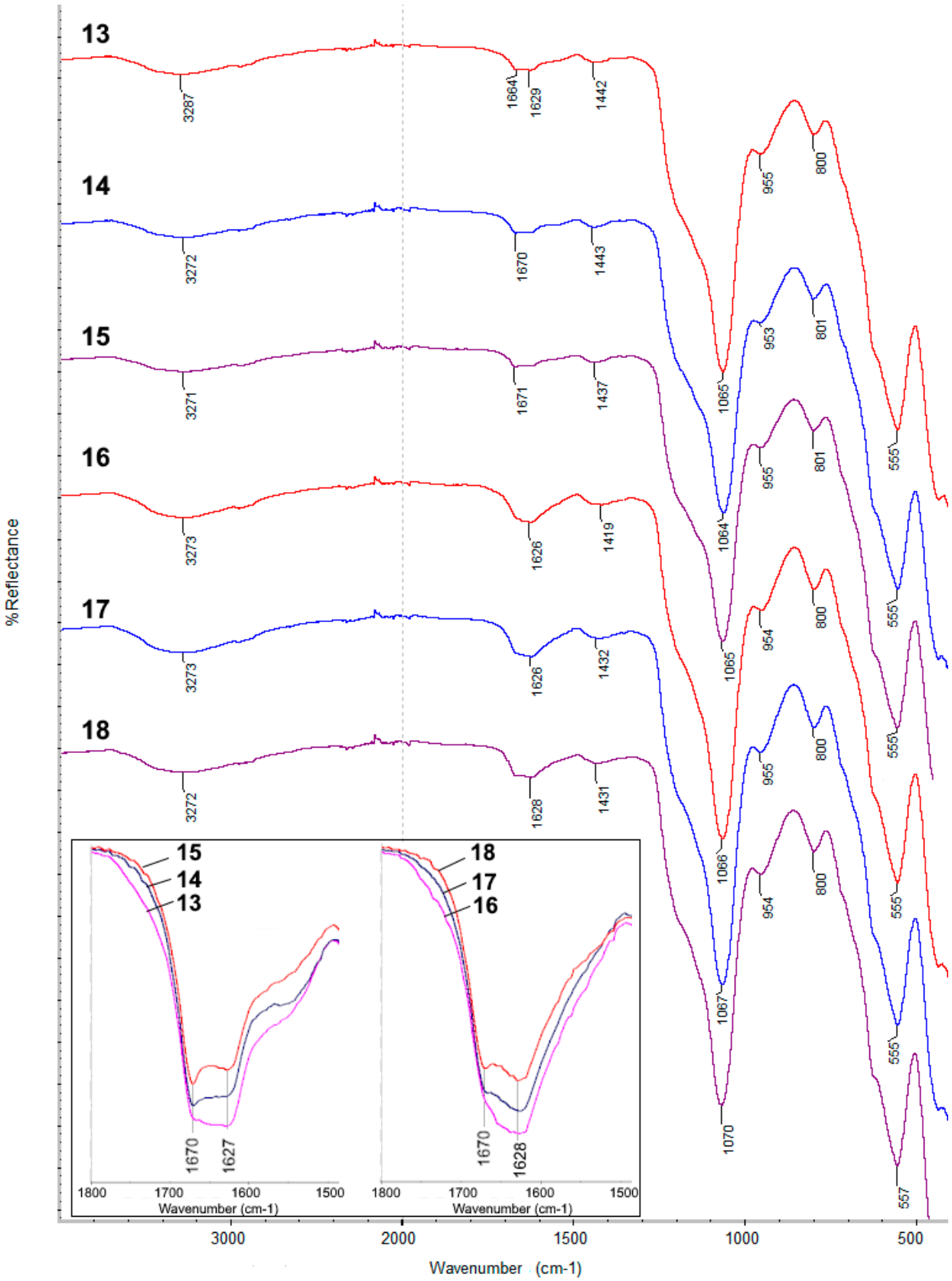
Figures S1. (a) ^{1}H NMR, (b) MS spectra of **PEG-RGD** conjugate and (c) HPLC of **PEG-RGD** conjugate.



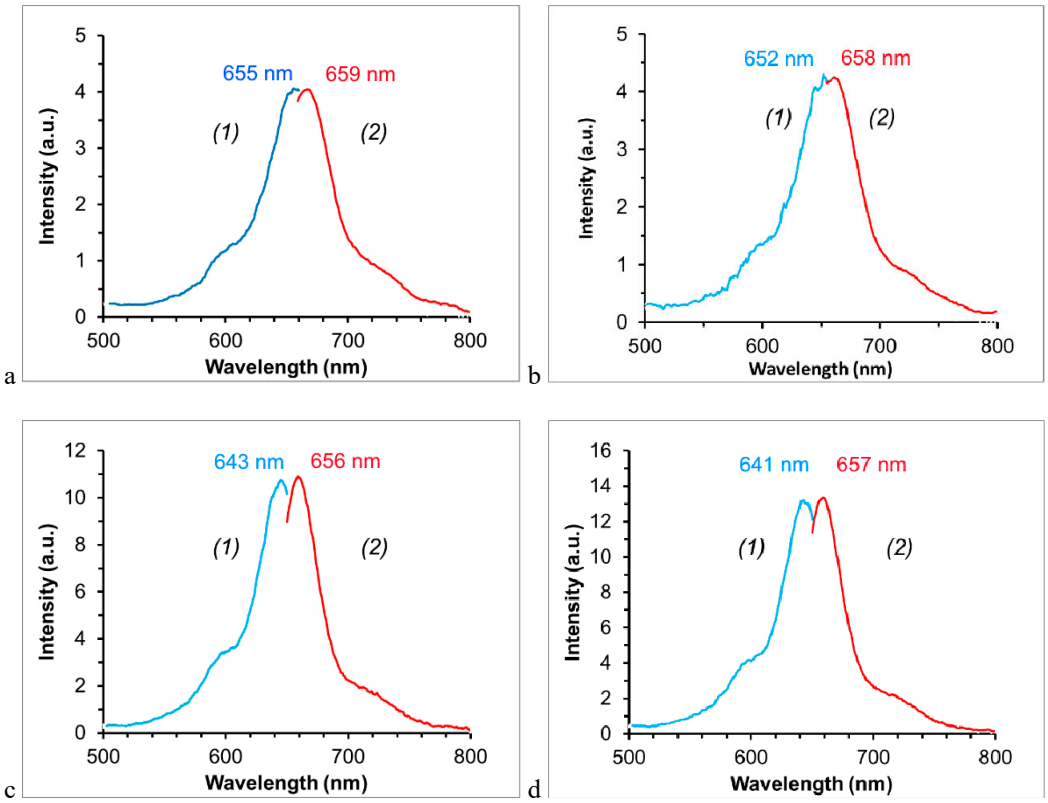
Figures S2. FT-IR spectra of MNPs-SiO_2 **3**, MNPs-APS **5** and MNPs-RGD **7–9**. The inset shows enlarged fragments of the spectra in the region 1800–1485 cm^{-1}.



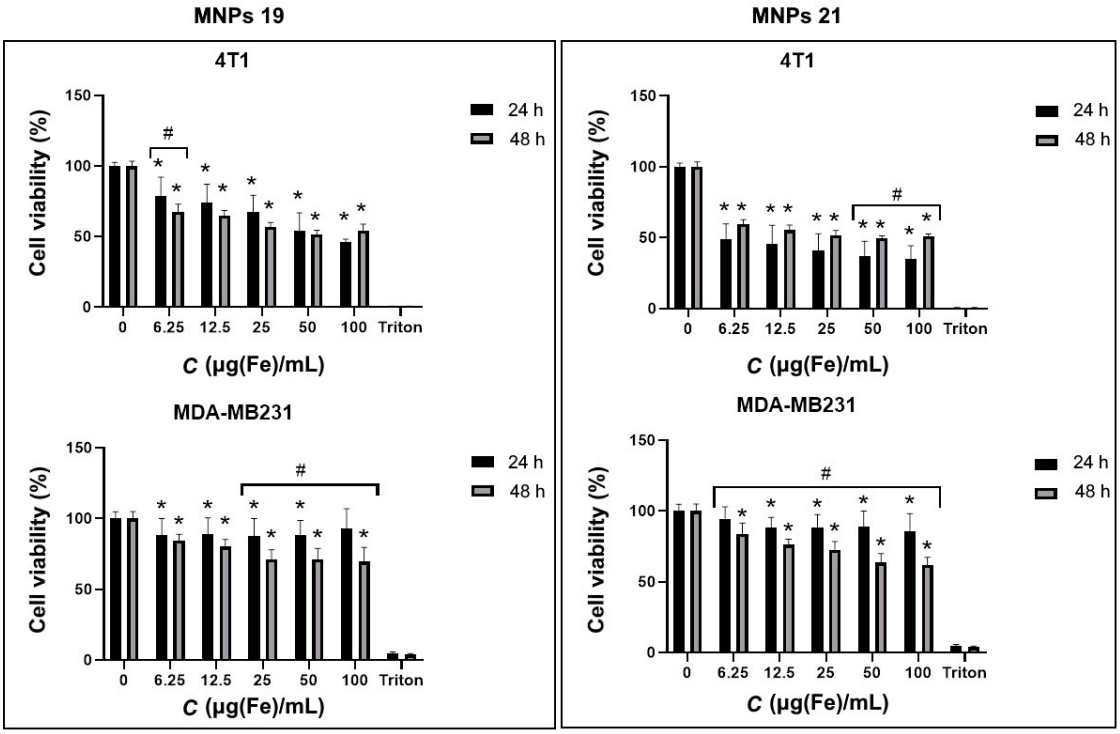
Figures S3. FT-IR spectra of MNPs **2**, MNPs-SiO_2 **4**, MNPs-APS **6** and MNPs-RGD **10–12**. The inset shows enlarged fragments of the spectra in the region 1800–1485 cm^{-1}.



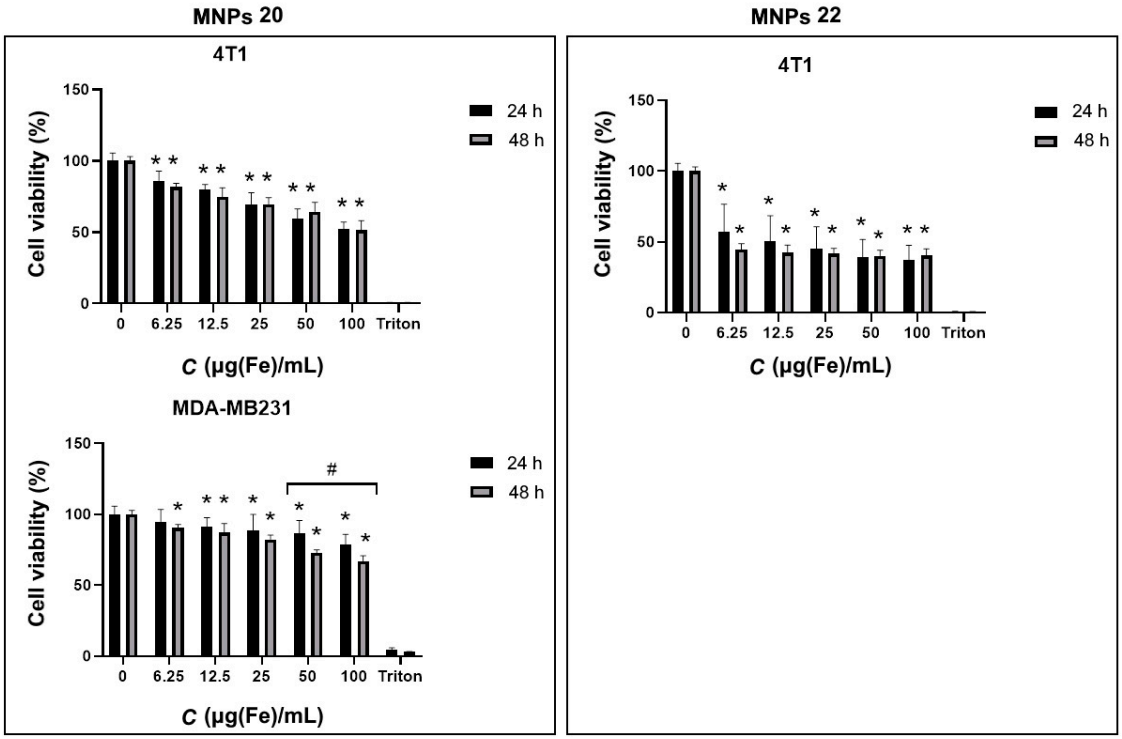
Figures S4. FT-IR spectra of MNPs-RGD*TFA **13–18**. The inset shows enlarged fragments of the spectra in the region 1800–1485 cm^{-1}.



Figures S5. Excitation (*1*) and emission (*2*) spectra of MNPs **19** (a), **20** (b), **21** (c) and **22** (d), respectively.



Figures S6. Evaluation of the viability of 4T1 (n=6, N=2) and MDA-MB231 (n=6, N=3) cells by the MTT test after incubation with MNPs **19** and **21** for 24 and 48 hours. Data are presented as Mean ± SD; * – significant difference from the control group, # – significant difference from the control from the 24 h group, $p<0.05$.



Figures S7. Evaluation of the viability of 4T1 (n=6, N=2) and MDA-MB231 (n=6, N=3) cells by the MTT test after incubation with MNPs **20** and **22** for 24 and 48 hours. Data are presented as Mean ± SD; * – significant difference from the control group, # – significant difference from the control from the 24 h group, $p<0.05$.