

Glycosaminoglycans and Contrast Agents: The Role of Hyaluronic Acid as MRI Contrast Enhancer

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Table S1. Values of water self-diffusion coefficient at different DVS concentrations measured at 20 MHz after 8h and 24h from DVS addition.

HA (% w/v)	DVS/HA (g/g)	D (10 ⁻⁹ m ² /s) ¹ mean ± std	D (10 ⁻⁹ m ² /s) ² mean ± std
0.25	0	3.05 ± 0.01	3.06 ± 0.01
0.25	2.35	3.01 ± 0.01	3.02 ± 0.01
0.25	4.70	2.97 ± 0.02	2.98 ± 0.01
0.25	7.06	2.95 ± 0.02	2.96 ± 0.01
0.25	9.42	2.93 ± 0.01	2.94 ± 0.01
0.25	11.77	2.91 ± 0.01	2.92 ± 0.01

¹ after 8h from the addition of DVS. ² after 24h from the addition of DVS.

Table S2. Longitudinal relaxation times of the crosslinked and non-crosslinked samples without Gd-DTPA measured with Saturation and Inversion Recovery sequences.

HA (% w/v)	HA (mM)	DVS/HA (g/g)	T1 (ms) ¹ mean ± std	T1 (ms) ² mean ± std
0	0	0	3650 ± 10	3770 ± 40
0.3	0.071	0	3730 ± 10	3790 ± 20
0.3	0.071	8	3500 ± 10	2926 ± 7
0.5	0.12	0	3630 ± 10	3660 ± 10
0.5	0.12	8	3000 ± 10	3018 ± 7
0.7	0.17	0	3640 ± 10	3770 ± 40
0.7	0.17	8	3290 ± 20	3321 ± 7

¹ measured using a Saturation Recovery (SR) sequence. ² measured using an Inversion Recovery (IR) sequence.

Table S3. Relaxivity of the crosslinked and non-crosslinked samples without Gd-DTPA measured with Saturation and Inversion Recovery sequences.

Sample	DVS/HA (g/g)	r_1 (mM ⁻¹ s ⁻¹) ² mean \pm std	r_1 (mM ⁻¹ s ⁻¹) ² mean \pm std
non-crosslinked	0	0.014 \pm 0.032	0.017 \pm 0.041
crosslinked	8	0.26 \pm 0.18	0.22 \pm 0.30

¹ measured using a Saturation Recovery (SR) sequence. ² measured using an Inversion Recovery (IR) sequence.

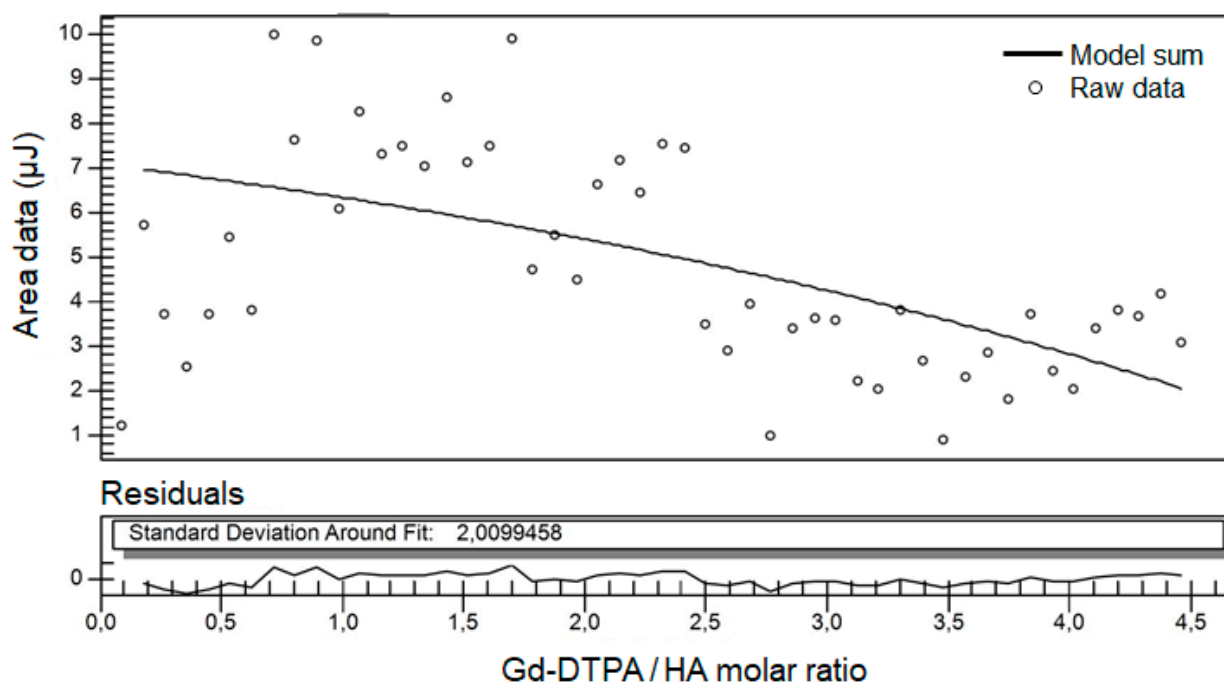


Figure S1. Fitting of ITC data for Gd-DTPA titrated into 0.1%w/v HA. ITC peak area data (empty circles) are plotted as a function of the Gd-DTPA / HA molar ratio. The model curve (solid line) is calculated as the sum of two models: independent sites model plus a constant used for the blank (i.e. Gd-DTPA in water). Residuals of the model and the standard deviation around fit are displayed in the bottom graph.