## 10. Relaxation rates:

**Table S3**: Nitrogen-15 longitudinal relaxation rates $R_1(^{15}N)$ ($s^{-1}$)

| residue | 9.4 T | | | 11.8 T | | | 14.1 T | | | 18.8 T | | | 23.5 T | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 145 | 0.956 | ± | 0.007 | 0.926 | ± | 0.006 | 0.882 | ± | 0.012 | 0.911 | ± | 0.002 | 0.993 | ± | 0.003 |
| 146 | 1.096 | ± | 0.006 | 1.085 | ± | 0.006 | 1.008 | ± | 0.011 | 1.022 | ± | 0.002 | 1.144 | ± | 0.003 |
| 147 | 1.208 | ± | 0.007 | 1.111 | ± | 0.008 | 1.150 | ± | 0.012 | 1.121 | ± | 0.002 | 1.227 | ± | 0.003 |
| 148 | 1.246 | ± | 0.009 | 1.160 | ± | 0.007 | 1.238 | ± | 0.014 | 1.168 | ± | 0.003 | 1.243 | ± | 0.003 |
| 149 | 1.293 | ± | 0.007 | 1.225 | ± | 0.008 | 1.238 | ± | 0.014 | 1.207 | ± | 0.003 | 1.279 | ± | 0.003 |
| 150 | 1.361 | ± | 0.009 | 1.310 | ± | 0.009 | 1.308 | ± | 0.018 | 1.273 | ± | 0.004 | 1.344 | ± | 0.004 |
| 151 | 1.379 | ± | 0.011 | 1.323 | ± | 0.010 | 1.268 | ± | 0.023 | 1.188 | ± | 0.004 | 1.359 | ± | 0.005 |
| 152 | 1.430 | ± | 0.009 | 1.395 | ± | 0.008 | 1.388 | ± | 0.018 | 1.347 | ± | 0.003 | 1.444 | ± | 0.004 |
| 153 | 1.464 | ± | 0.008 | 1.335 | ± | 0.008 | 1.323 | ± | 0.016 | 1.278 | ± | 0.003 | 1.374 | ± | 0.004 |
| 154 | 1.449 | ± | 0.009 | 1.510 | ± | 0.050 | 1.370 | ± | 0.016 | 1.308 | ± | 0.003 | 1.440 | ± | 0.004 |
| 155 | 1.511 | ± | 0.013 | 1.362 | ± | 0.010 | 1.296 | ± | 0.019 | 1.329 | ± | 0.004 | 1.415 | ± | 0.004 |
| 156 | 1.557 | ± | 0.010 | 1.455 | ± | 0.013 | 1.413 | ± | 0.019 | 1.413 | ± | 0.003 | 1.495 | ± | 0.004 |
| 157 | 1.516 | ± | 0.010 | 1.402 | ± | 0.010 | 1.433 | ± | 0.020 | 1.384 | ± | 0.004 | 1.444 | ± | 0.004 |
| 158 | 1.371 | ± | 0.007 | 1.325 | ± | 0.008 | 1.359 | ± | 0.015 | 1.307 | ± | 0.003 | 1.365 | ± | 0.004 |
| 159 | 1.363 | ± | 0.010 | 1.295 | ± | 0.009 | 1.192 | ± | 0.020 | 1.264 | ± | 0.004 | 1.269 | ± | 0.005 |
| 160 | 1.331 | ± | 0.010 | 1.242 | ± | 0.008 | 1.251 | ± | 0.019 | 1.274 | ± | 0.003 | 1.317 | ± | 0.004 |
| 161 | 1.360 | ± | 0.017 | 1.313 | ± | 0.013 | 1.304 | ± | 0.033 | 1.231 | ± | 0.005 | 1.342 | ± | 0.006 |
| 162 | 1.398 | ± | 0.011 | 1.354 | ± | 0.013 | 1.350 | ± | 0.021 | 1.311 | ± | 0.003 | 1.361 | ± | 0.005 |
| 163 | 1.400 | ± | 0.011 | 1.335 | ± | 0.010 | 1.260 | ± | 0.023 | 1.338 | ± | 0.005 | 1.294 | ± | 0.005 |
| 164 | 1.498 | ± | 0.013 | 1.386 | ± | 0.011 | 1.382 | ± | 0.026 | 1.331 | ± | 0.005 | 1.383 | ± | 0.005 |
| 165 | 1.462 | ± | 0.013 | 1.330 | ± | 0.015 | 1.355 | ± | 0.027 | 1.283 | ± | 0.005 | 1.304 | ± | 0.005 |
| 167 | 1.742 | ± | 0.020 | 1.569 | ± | 0.019 | 1.454 | ± | 0.035 | 1.369 | ± | 0.007 | 1.400 | ± | 0.007 |
| 168 | 1.798 | ± | 0.025 | 1.683 | ± | 0.023 | 1.551 | ± | 0.046 | 1.443 | ± | 0.009 | 1.400 | ± | 0.009 |
| 169 | 1.819 | ± | 0.025 | 1.680 | ± | 0.023 | 1.499 | ± | 0.050 | 1.391 | ± | 0.010 | 1.369 | ± | 0.010 |
| 171 | 2.000 | ± | 0.029 | 1.806 | ± | 0.027 | 1.588 | ± | 0.059 | 1.468 | ± | 0.013 | 1.463 | ± | 0.013 |
| 172 | 2.012 | ± | 0.036 | 1.873 | ± | 0.033 | 1.727 | ± | 0.082 | 1.507 | ± | 0.017 | 1.461 | ± | 0.017 |
| 173 | 1.883 | ± | 0.046 | 1.689 | ± | 0.036 | 1.557 | ± | 0.089 | 1.606 | ± | 0.020 | 1.599 | ± | 0.021 |
| 174 | 2.103 | ± | 0.044 | 1.837 | ± | 0.056 | 1.760 | ± | 0.112 | 1.578 | ± | 0.027 | 1.536 | ± | 0.027 |
| 175 | 2.052 | ± | 0.045 | 1.760 | ± | 0.036 | 1.849 | ± | 0.111 | 1.521 | ± | 0.018 | 1.457 | ± | 0.017 |
| 176 | 2.119 | ± | 0.156 | 1.560 | ± | 0.052 | 1.477 | ± | 0.111 | 1.468 | ± | 0.020 | 1.420 | ± | 0.018 |
| 177 | 1.904 | ± | 0.039 | 1.762 | ± | 0.032 | 1.638 | ± | 0.079 | 1.561 | ± | 0.014 | 1.543 | ± | 0.014 |
| 178 | 1.817 | ± | 0.032 | 1.744 | ± | 0.030 | 1.754 | ± | 0.064 | 1.528 | ± | 0.011 | 1.543 | ± | 0.011 |
| 179 | 1.832 | ± | 0.031 | 1.701 | ± | 0.027 | 1.708 | ± | 0.060 | 1.473 | ± | 0.009 | 1.442 | ± | 0.010 |
| 180 | 1.840 | ± | 0.017 | 1.574 | ± | 0.014 | 1.611 | ± | 0.037 | 1.514 | ± | 0.006 | 1.542 | ± | 0.007 |
| 181 | 1.748 | ± | 0.015 | 1.969 | ± | 0.016 | 1.270 | ± | 0.025 | 1.455 | ± | 0.005 | 1.427 | ± | 0.005 |
| 183 | 1.628 | ± | 0.023 | 1.585 | ± | 0.019 | 1.554 | ± | 0.049 | 1.339 | ± | 0.008 | 1.428 | ± | 0.008 |
| 184 | 1.503 | ± | 0.032 | 1.472 | ± | 0.023 | 1.334 | ± | 0.061 | 1.297 | ± | 0.010 | 1.329 | ± | 0.010 |
| 185 | 1.450 | ± | 0.014 | 1.358 | ± | 0.013 | 1.304 | ± | 0.030 | 1.266 | ± | 0.005 | 1.315 | ± | 0.006 |
| 187 | 1.576 | ± | 0.020 | 1.551 | ± | 0.019 | 1.489 | ± | 0.045 | 1.349 | ± | 0.007 | 1.381 | ± | 0.008 |
| 188 | 1.640 | ± | 0.027 | 1.620 | ± | 0.024 | 1.500 | ± | 0.053 | 1.413 | ± | 0.008 | 1.419 | ± | 0.009 |
| 189 | 1.834 | ± | 0.038 | 1.646 | ± | 0.032 | 1.580 | ± | 0.069 | 1.412 | ± | 0.009 | 1.461 | ± | 0.010 |
| 190 | 1.717 | ± | 0.020 | 1.615 | ± | 0.022 | 1.531 | ± | 0.040 | 1.450 | ± | 0.006 | 1.471 | ± | 0.007 |
| 192 | 1.725 | ± | 0.015 | 1.391 | ± | 0.012 | 1.563 | ± | 0.027 | 1.399 | ± | 0.004 | 1.388 | ± | 0.005 |
| 193 | 1.693 | ± | 0.018 | 1.487 | ± | 0.017 | 1.486 | ± | 0.033 | 1.433 | ± | 0.006 | 1.430 | ± | 0.006 |
| 194 | 1.699 | ± | 0.020 | 1.542 | ± | 0.017 | 1.532 | ± | 0.038 | 1.382 | ± | 0.006 | 1.413 | ± | 0.007 |
| 195 | 1.586 | ± | 0.032 | 1.525 | ± | 0.021 | 1.394 | ± | 0.058 | 1.318 | ± | 0.008 | 1.360 | ± | 0.009 |
| 197 | 1.743 | ± | 0.020 | 1.511 | ± | 0.014 | 1.473 | ± | 0.036 | 1.404 | ± | 0.006 | 1.420 | ± | 0.006 |
| 198 | 1.712 | ± | 0.019 | 1.626 | ± | 0.016 | 1.569 | ± | 0.038 | 1.382 | ± | 0.006 | 1.384 | ± | 0.007 |
| 199 | 1.740 | ± | 0.012 | 1.562 | ± | 0.010 | 1.476 | ± | 0.021 | 1.384 | ± | 0.003 | 1.406 | ± | 0.004 |
| 200 | 1.623 | ± | 0.009 | 1.431 | ± | 0.008 | 1.502 | ± | 0.024 | 1.389 | ± | 0.004 | 1.417 | ± | 0.005 |
| 201 | 1.721 | ± | 0.015 | 1.753 | ± | 0.014 | 1.459 | ± | 0.027 | 1.344 | ± | 0.004 | 1.378 | ± | 0.005 |
| 202 | 1.801 | ± | 0.014 | 1.559 | ± | 0.011 | 1.468 | ± | 0.022 | 1.422 | ± | 0.004 | 1.401 | ± | 0.005 |
| 204 | 1.899 | ± | 0.018 | 1.706 | ± | 0.013 | 1.554 | ± | 0.033 | 1.491 | ± | 0.005 | 1.434 | ± | 0.006 |
| 205 | 1.869 | ± | 0.023 | 1.664 | ± | 0.019 | 1.582 | ± | 0.050 | 1.454 | ± | 0.008 | 1.347 | ± | 0.007 |
| 206 | 1.891 | ± | 0.023 | 1.702 | ± | 0.020 | 1.513 | ± | 0.044 | 1.358 | ± | 0.007 | 1.326 | ± | 0.007 |
| 207 | 2.018 | ± | 0.023 | 1.666 | ± | 0.018 | 1.375 | ± | 0.035 | 1.150 | ± | 0.005 | 1.057 | ± | 0.005 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 208 | 2.572 | ± | 0.049 | 2.148 | ± | 0.032 | 1.719 | ± | 0.069 | 1.397 | ± | 0.010 | 1.205 | ± | 0.009 |
| 209 | 2.501 | ± | 0.037 | 2.103 | ± | 0.025 | 1.815 | ± | 0.058 | 1.370 | ± | 0.007 | 1.199 | ± | 0.008 |
| 210 | 2.537 | ± | 0.033 | 2.030 | ± | 0.022 | 1.641 | ± | 0.044 | 1.321 | ± | 0.006 | 1.128 | ± | 0.006 |
| 211 | 2.428 | ± | 0.049 | 2.111 | ± | 0.032 | 1.754 | ± | 0.070 | 1.324 | ± | 0.008 | 1.147 | ± | 0.008 |
| 212 | 2.551 | ± | 0.039 | 1.997 | ± | 0.027 | 1.762 | ± | 0.059 | 1.300 | ± | 0.008 | 1.181 | ± | 0.007 |
| 213 | 2.657 | ± | 0.032 | 2.179 | ± | 0.022 | 1.794 | ± | 0.043 | 1.338 | ± | 0.005 | 1.178 | ± | 0.006 |
| 214 | 2.648 | ± | 0.045 | 2.109 | ± | 0.027 | 1.812 | ± | 0.064 | 1.333 | ± | 0.008 | 1.152 | ± | 0.008 |
| 215 | 2.621 | ± | 0.080 | 2.032 | ± | 0.042 | 1.707 | ± | 0.064 | 1.376 | ± | 0.008 | 1.193 | ± | 0.008 |
| 216 | 2.884 | ± | 0.350 | 2.227 | ± | 0.035 | 1.675 | ± | 0.065 | 1.363 | ± | 0.009 | 1.180 | ± | 0.009 |
| 217 | 2.622 | ± | 0.038 | 2.214 | ± | 0.027 | 1.783 | ± | 0.057 | 1.371 | ± | 0.007 | 1.183 | ± | 0.007 |
| 218 | 2.672 | ± | 0.048 | 1.943 | ± | 0.029 | 1.817 | ± | 0.075 | 1.319 | ± | 0.010 | 1.121 | ± | 0.010 |
| 219 | 2.536 | ± | 0.061 | 2.156 | ± | 0.054 | 1.749 | ± | 0.119 | 1.360 | ± | 0.021 | 1.232 | ± | 0.022 |
| 220 | 2.540 | ± | 0.041 | 2.175 | ± | 0.031 | 1.698 | ± | 0.066 | 1.355 | ± | 0.010 | 1.178 | ± | 0.010 |
| 221 | 2.384 | ± | 0.044 | 1.911 | ± | 0.036 | 1.639 | ± | 0.077 | 1.219 | ± | 0.012 | 1.153 | ± | 0.011 |
| 222 | 2.474 | ± | 0.034 | 2.114 | ± | 0.024 | 1.728 | ± | 0.054 | 1.325 | ± | 0.008 | 1.154 | ± | 0.007 |
| 223 | 1.967 | ± | 0.120 | 1.583 | ± | 0.049 | 1.734 | ± | 0.086 | 1.314 | ± | 0.015 | 1.192 | ± | 0.014 |
| 224 | 2.655 | ± | 0.044 | 2.287 | ± | 0.087 | 1.748 | ± | 0.079 | 1.412 | ± | 0.012 | 1.241 | ± | 0.012 |
| 225 | 2.210 | ± | 0.064 | 1.361 | ± | 0.019 | 1.416 | ± | 0.117 | 1.374 | ± | 0.021 | 1.235 | ± | 0.028 |
| 226 | 2.346 | ± | 0.039 | 2.038 | ± | 0.029 | 1.799 | ± | 0.065 | 1.351 | ± | 0.008 | 1.178 | ± | 0.008 |
| 227 | 2.596 | ± | 0.056 | 2.268 | ± | 0.030 | 1.636 | ± | 0.077 | 1.398 | ± | 0.011 | 1.261 | ± | 0.012 |
| 228 | 2.585 | ± | 0.033 | 2.188 | ± | 0.022 | 1.770 | ± | 0.052 | 1.374 | ± | 0.007 | 1.209 | ± | 0.007 |
| 229 | 2.496 | ± | 0.047 | 2.362 | ± | 0.035 | 1.833 | ± | 0.070 | 1.416 | ± | 0.009 | 1.281 | ± | 0.009 |
| 230 | 2.725 | ± | 0.043 | 2.283 | ± | 0.028 | 1.707 | ± | 0.063 | 1.491 | ± | 0.009 | 1.239 | ± | 0.009 |
| 231 | 2.661 | ± | 0.037 | 2.183 | ± | 0.024 | 1.798 | ± | 0.053 | 1.370 | ± | 0.007 | 1.192 | ± | 0.007 |
| 232 | 2.607 | ± | 0.030 | 2.161 | ± | 0.020 | 1.750 | ± | 0.043 | 1.414 | ± | 0.005 | 1.185 | ± | 0.006 |
| 233 | 2.794 | ± | 0.042 | 2.338 | ± | 0.027 | 1.841 | ± | 0.059 | 1.486 | ± | 0.008 | 1.296 | ± | 0.009 |
| 234 | 2.457 | ± | 0.034 | 1.941 | ± | 0.017 | 1.696 | ± | 0.059 | 1.428 | ± | 0.007 | 1.232 | ± | 0.007 |
| 235 | 2.619 | ± | 0.031 | 2.123 | ± | 0.019 | 1.731 | ± | 0.041 | 1.325 | ± | 0.005 | 1.151 | ± | 0.005 |
| 236 | 2.603 | ± | 0.030 | 2.106 | ± | 0.020 | 1.864 | ± | 0.043 | 1.387 | ± | 0.006 | 1.194 | ± | 0.006 |
| 237 | 2.694 | ± | 0.053 | 2.257 | ± | 0.036 | 1.821 | ± | 0.077 | 1.409 | ± | 0.011 | 1.206 | ± | 0.009 |
| 238 | 2.590 | ± | 0.043 | 2.192 | ± | 0.030 | 1.803 | ± | 0.073 | 1.367 | ± | 0.010 | 1.235 | ± | 0.009 |
| 239 | 2.361 | ± | 0.039 | 2.020 | ± | 0.026 | 1.510 | ± | 0.055 | 1.319 | ± | 0.008 | 1.104 | ± | 0.006 |
| 240 | 2.392 | ± | 0.033 | 1.979 | ± | 0.024 | 1.641 | ± | 0.050 | 1.303 | ± | 0.007 | 1.179 | ± | 0.007 |
| 241 | 2.637 | ± | 0.060 | 2.206 | ± | 0.042 | 1.819 | ± | 0.109 | 1.429 | ± | 0.017 | 1.226 | ± | 0.017 |
| 242 | 2.653 | ± | 0.042 | 2.162 | ± | 0.026 | 1.897 | ± | 0.071 | 1.452 | ± | 0.010 | 1.269 | ± | 0.010 |
| 243 | 2.695 | ± | 0.041 | 2.203 | ± | 0.027 | 1.804 | ± | 0.060 | 1.426 | ± | 0.008 | 1.245 | ± | 0.008 |
| 244 | 2.708 | ± | 0.055 | 2.151 | ± | 0.034 | 1.821 | ± | 0.084 | 1.441 | ± | 0.012 | 1.220 | ± | 0.012 |
| 245 | 2.791 | ± | 0.057 | 2.269 | ± | 0.045 | 1.680 | ± | 0.086 | 1.427 | ± | 0.013 | 1.189 | ± | 0.012 |
| 246 | 2.726 | ± | 0.055 | 2.235 | ± | 0.047 | 1.777 | ± | 0.093 | 1.374 | ± | 0.018 | 1.209 | ± | 0.016 |
| 247 | 2.819 | ± | 0.042 | 2.424 | ± | 0.028 | 1.844 | ± | 0.057 | 1.473 | ± | 0.007 | 1.287 | ± | 0.008 |
| 248 | 2.591 | ± | 0.065 | 2.300 | ± | 0.056 | 1.688 | ± | 0.108 | 1.382 | ± | 0.018 | 1.199 | ± | 0.017 |
| 249 | 2.744 | ± | 0.038 | 2.183 | ± | 0.027 | 1.783 | ± | 0.057 | 1.348 | ± | 0.008 | 1.146 | ± | 0.008 |
| 250 | 2.693 | ± | 0.038 | 2.158 | ± | 0.025 | 1.846 | ± | 0.057 | 1.458 | ± | 0.008 | 1.225 | ± | 0.008 |
| 251 | 2.695 | ± | 0.054 | 1.785 | ± | 0.033 | 2.078 | ± | 0.095 | 1.479 | ± | 0.013 | 1.266 | ± | 0.018 |
| 252 | 2.707 | ± | 0.047 | 2.068 | ± | 0.055 | 1.726 | ± | 0.076 | 1.370 | ± | 0.012 | 1.241 | ± | 0.011 |
| 253 | 2.477 | ± | 0.040 | 1.966 | ± | 0.097 | 1.668 | ± | 0.121 | 1.483 | ± | 0.020 | 1.282 | ± | 0.025 |
| 254 | 2.381 | ± | 0.040 | 2.022 | ± | 0.038 | 1.846 | ± | 0.077 | 1.399 | ± | 0.013 | 1.297 | ± | 0.013 |
| 255 | 2.189 | ± | 0.021 | 1.836 | ± | 0.018 | 1.701 | ± | 0.038 | 1.412 | ± | 0.006 | 1.327 | ± | 0.007 |
| 256 | 2.001 | ± | 0.017 | 1.734 | ± | 0.013 | 1.636 | ± | 0.030 | 1.476 | ± | 0.005 | 1.405 | ± | 0.006 |
| 257 | 1.670 | ± | 0.013 | 1.513 | ± | 0.010 | 1.425 | ± | 0.022 | 1.352 | ± | 0.004 | 1.331 | ± | 0.005 |
| 258 | 1.294 | ± | 0.008 | 1.193 | ± | 0.007 | 1.220 | ± | 0.015 | 1.117 | ± | 0.003 | 1.176 | ± | 0.004 |
| 259 | 0.783 | ± | 0.003 | 0.762 | ± | 0.003 | 0.756 | ± | 0.005 | 0.769 | ± | 0.001 | 0.843 | ± | 0.001 |