

**Energetic Derivatives of
5-(5-Amino-2*H*-1,2,3-triazol-4-yl)-1*H*-tetrazole**

Supporting Information

Dániel Izsák, Thomas M. Klapötke,* and Carolin Pflüger

Contents:

- crystallographic data for **2** and **5**
- $^{15}\text{N}\{^1\text{H}\}$ NMR spectra of **6** and **7**

Table S1: Crystallographic data for **2** and **5**.

| | 2 | 5 |
|--|--|--|
| Formula | C ₁₀ H ₁₁ N ₅ O | C ₃ H ₄ N ₈ |
| <i>M</i> / g mol ⁻¹ | 217.23 | 152.14 |
| Color | colorless | colorless |
| Habit | block | block |
| Crystal size / mm | 0.267 × 0.127 × 0.117 | 0.080 × 0.050 × 0.040 |
| Crystal system | monoclinic | monoclinic |
| Space Group | <i>P</i> 2 ₁ / <i>c</i> (14) | <i>P</i> 2 ₁ / <i>n</i> (14) |
| <i>a</i> / Å | 11.731(4) | 6.9019(4) |
| <i>b</i> / Å | 7.423(2) | 11.6423(7) |
| <i>c</i> / Å | 11.188(4) | 8.0685(4) |
| α / ° | 90 | 90 |
| β / ° | 93.655(3) | 113.881(2) |
| γ / ° | 90 | 90 |
| <i>V</i> / Å ³ | 972.3(5) | 592.83(6) |
| <i>Z</i> | 4 | 4 |
| $\rho_{\text{calc.}}$ / g cm ⁻³ | 1.484 | 1.705 |
| <i>T</i> / K | 173(2) | 100(2) |
| <i>F</i> (000) | 456 | 312 |
| μ / mm ⁻¹ | 0.104 | 0.131 |
| $\lambda_{\text{MoK}\alpha}$ / Å | 0.71073 | 0.71073 |
| θ range / ° | 4.14–26.37 | 3.269–26.367 |
| Dataset (<i>h</i> ; <i>k</i> ; <i>l</i>) | –14:14; –9:9; –12:13 | –8:8; –14:14; –9:10 |
| Collected reflections | 6884 | 6279 |
| Independent reflections | 1980 | 1218 |
| Observed reflections | 1738 | 1057 |
| <i>R</i> _{int.} | 0.0235 | 0.0217 |
| Parameters | 189 | 116 |
| Restraints | 0 | 0 |
| <i>R</i> ₁ (obs.) | 0.0318 | 0.0323 |
| <i>wR</i> ₂ (all data) | 0.0802 | 0.0903 |
| <i>S</i> | 1.063 | 1.085 |
| Res. dens. / e Å ⁻³ | –0.203:0.240 | –0.191:0.348 |
| Solution | SIR97 | SIR97 |
| Refinement | SHELXL-97 | SHELXL-2013 |
| Absorption correction | multi-scan | multi-scan |
| CCDC | 1406925 | 1413469 |

NMR Spectroscopy

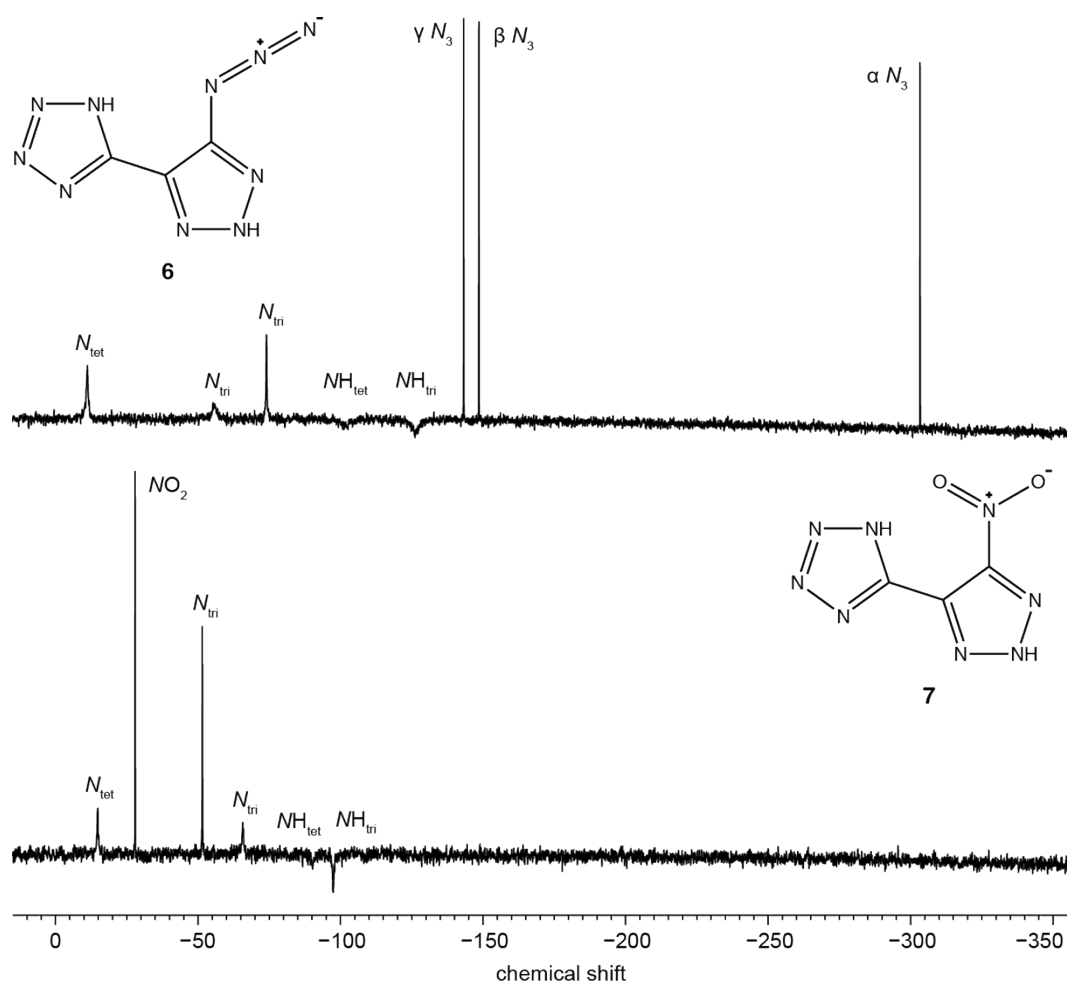


Figure S1: $^{15}\text{N}\{^1\text{H}\}$ NMR spectra of 5-(5-azido-2H-1,2,3-triazol-4-yl)-1H-tetrazole (**6**) and 5-(5-nitro-2H-1,2,3-triazol-4-yl)-1H-tetrazole (**7**) in $\text{DMSO-}d_6$ at room temperature.