10.1071/FP12130_AC

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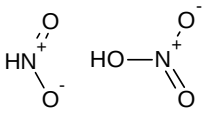
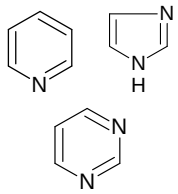
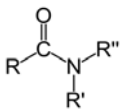
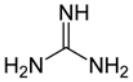
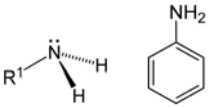
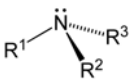
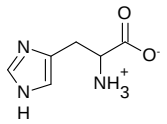
Supplementary material

Table S1. Peak assignments for solid-state ^{15}N-NMR spectra using George (2008), (Ma *et al.* 2004; Smernik and Baldock 2005; Knicker 2011)

N group	NMR region (ppm)	Possible peak assignment
Nitro-N 	25 to -25	Nitrate, nitrite, nitro groups, nitro-derivatives
Hetero-N 	-25 to -90	Imine, phenazine, pyridine, Schiff-bases
	-90 to -145	Purine, nitrile groups
	-145 to -220	Chlorophyll-N, purine/pyrimidine, imidazole, in particular substituted pyrroles, N in pyrrole and related ring structures (these resonances can overlap with amide region), histidine
Amide N 	-220 to -285	Amine/peptide, N-acetyl derivatives of amino sugars, tryptophane, proline, lactams, unsubstituted pyrroles, indoles, carbazoles
Guano N 	-285 to -300	NH group in guanidine
Amine N 	-300 to -325	NH_2^- and NR_2^- groups (N_δ-arginine and N_α-citrulline, N_ε-arginine, N_ω-citrulline), urea, nucleic acids, aniline derivatives, side chain N of arginine residues, guanidine residues in DNA, aromatic amines
Amino N 	-325 to -350	Free amino groups in amino acids and sugars, amino-N of terminal amino acids or sugars, ε-NH_2 in lysine, glycine

	-350 to -375	NH_4^+, some amines

References

George L (2008) Applications of solid-state 15N NMR spectroscopy to the study of nitrogen cycling in sub-tropical forest plantations. PhD thesis. University of Western Sydney, Australia.

Knicker H (2011) Solid state CPMAS ^{13}C and ^{15}N NMR spectroscopy in organic geochemistry and how spin dynamics can either aggravate or improve spectra interpretation. *Organic Geochemistry* **42**, 867–890. doi:10.1016/j.orggeochem.2011.06.019

Ma ZR, Barich DH, Solum MS, Pugmire RJ (2004) Solid-state ^{15}N NMR studies of tobacco leaves. *Journal of Agricultural and Food Chemistry* **52**, 215–221. doi:10.1021/jf034807x

Smernik RJ, Baldock JA (2005) Solid-state ^{15}N NMR analysis of highly ^{15}N-enriched plant materials. *Plant and Soil* **275**, 271–283. doi:10.1007/s11104-005-2153-3