Supporting Information for BI0014655

Hypermodified nucleosides in the anticodon of tRNA^{Lys} stabilize a canonical U-turn structure

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Figure S1. ³¹P NMR spectra in 10 mM phosphate buffer at pH 7.0 containing 50 mM KCl, 50 mM NaCl, without MgCl₂ (a) Native tRNA^{Lys}; (b) tRNA^{Lys}-mnm⁵s²U34,ψ39; (c) tRNA^{Lys}-t⁶A37,ψ39; (d) tRNA^{Lys}-s²U34,ψ39. Signal to noise variations are primarily due to linewidth differences and may reflect differences in local backbone dynamics.

Figure. S2. Base-H1' assignment walk for (a) Native tRNA^{Lys}; (b) tRNA^{Lys}-mnm⁵s²U34,ψ39; (c) tRNA^{Lys}-t⁶A37,ψ39. The unambiguous assignments for the native tRNA^{Lys} were facilitated by analysis of the two doubly modified tRNA ASLs, and also by analysis of tRNA^{Lys}-s²U34, ψ39 (not shown).

Figure. S3. Base-sugar region with the base proton positions indicated and NOEs for modified nucleosides. (a) Native tRNA^{Lys}; (b) tRNA^{Lys}-mnm⁵s²U34,ψ39; (c) tRNA^{Lys}-t⁶A37,ψ39. The NOE between the H6 of mnm⁵s²U34 and the CH₂ of the side chain is easily identified in both a and b.

Figure S1

Figure S3