

MUTATED tRNA FOR CODON EXPANSION

[ABSTRACT]

5 In some embodiments, the present disclosure relates to mutated tRNAs in which the first
letter of the anticodon has been substituted to lysidine or agmatidine, and translation systems
containing the mutated tRNAs. In a specific embodiment, the present disclosure provides
mutated tRNAs capable of selectively translating codon NNA. In another embodiment, the
present disclosure provides translation systems capable of translating two or three types of amino
10 acids from a single codon box. In still another embodiment, the present disclosure provides
novel methods for synthesizing lysidine diphosphate, agmatidine diphosphate, and derivatives
thereof.

[No Suitable Figure]