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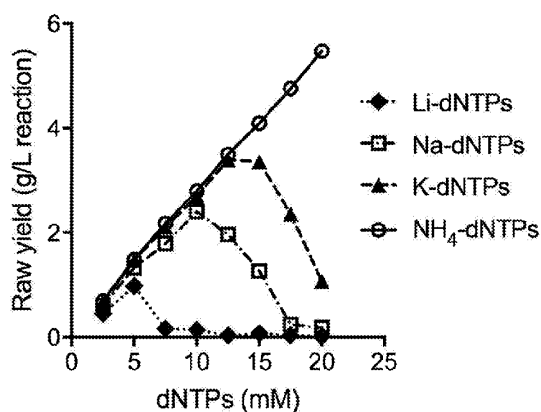


Fig. 4

(57) Abstract: The present invention relates to an improved process for synthesis of deoxyribonucleic acid (DNA), in particular cell-free enzymatic synthesis of DNA, preferably on a large scale, with an improved yield and/or with an improved efficiency. The species of cation present in the nucleotide salt as the counter-ion is critical to the yield, efficiency and fidelity of high yielding enzymatic DNA synthesis reaction. The processes herein use alternative cations as counter-ions for the ionic nucleotides, permitting the use of higher concentrations of nucleotides in DNA synthesis, and further allowing for more favourable reaction conditions to be used.

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