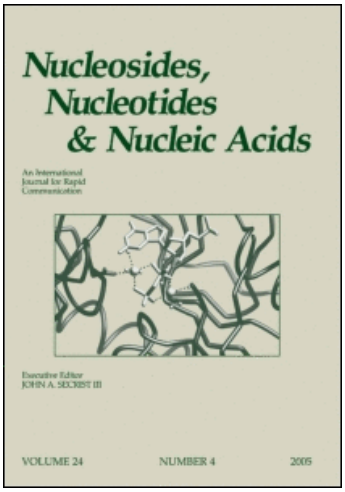

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A. Meyerhans[a]; G. Heisterberg-moutsis[b]; G. Kurth[a]; H. Blöcker[a]; R. Frank[a]
[a] GBF (Gesel lschaft für Biotechnologische Forschung), Braunschweig, FRG [b] GEN-BIO-TEC, Heidelberg, FRG

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RAPID PURIFICATION OF CHEMICALLY SYNTHESIZED OLIGODEOXY-NUCLEOTIDES

A. Meyerhans*, G. Heisterberg-Moutsis**, G. Kurth*,
H. Blöcker* and R. Frank*
* GBF (Gesellschaft für Biotechnologische Forschung),
Mascheroder Weg 1, D-3300 Braunschweig, FRG
**GEN-BIO-TEC, Czerny-Ring 22, D-6900 Heidelberg, FRG

Advances in solid phase oligonucleotide synthesis have increased the number of sequences that can be synthesized within a short time. However, various deprotection steps are required for the isolation of the final products in a pure form. These work-up procedures are more time consuming than the synthesis itself.

The most frequently used isolation scheme is as follows:

1. deprotection and cleavage from support
2. evaporation
3. reversed phase chromatographic isolation of the tritylated compound
4. evaporation
5. acidic detritylation in solution
6. evaporation
7. HPLC (ion-exchange, paired ion, reversed phase) or PAGE
8. desalting or elution and desalting
9. evaporation

Here we described a procedure which combines step 2 to step 5 in a chromatography like operation. The oligonucleotide can be adsorbed from the ammonia deprotection solution on a solid material (mixture of PTFE and DEAE-Cellulose). Separation of untritylated side products from tritylated target compound and subsequent detritylation using 3 % DCA in CH_2Cl_2 are performed while the oligonucleotide is adsorbed on the solid phase.

This procedure significantly reduces the time required for the work-up of chemically synthesized oligodeoxynucleotides and could also serve as the basis for the development of further, partially automated procedures.

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