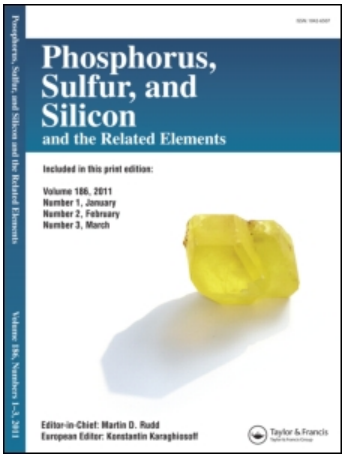


Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

The Synthesis of the Trnas Anticodon Loop Fragment ("U-Turn") with Modified Uridines as the Components

E. Sochacka[a]; A. Malkiewicz[a]
[a] Institute of Organic Chemistry, Technical University, Lódź, Poland

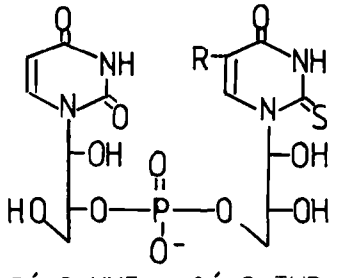
To cite this Article Sochacka, E. and Malkiewicz, A.(1990) 'The Synthesis of the Trnas Anticodon Loop Fragment ("U-Turn") with Modified Uridines as the Components', Phosphorus, Sulfur, and Silicon and the Related Elements, 51: 1, 375
To link to this Article: DOI: 10.1080/10426509008040902
URL: http://dx.doi.org/10.1080/10426509008040902

Phosphorus, Sulfur, and Silicon, 1990, Vols. 51/52, p. 375
Reprints available directly from the publisher
Photocopying permitted by license only

THE SYNTHESIS OF THE tRNAs ANTICODON LOOP FRAGMENT ("U-TURN") WITH MODIFIED URIDINES AS THE COMPONENTS

E.SOCHACKA and A.MALKIEWICZ
Institute of Organic Chemistry, Technical University, Żwirki 36, 90-924 Łódź, Poland

To continue studies on dynamics of tRNAs anticodon loop fragments conformation (1) the series of oligomers 1-5 has been synthesized.



R=-OCH_3	(mo^5s^2U)	1
R=-OCH_2COOCH_3	($mcmo^5s^2U$)	2
R=-CH_2COOCH_3	(mcm^5s^2U)	3
R=-CH_2NHCH_3	(mnm^5s^2U)	4
R=-CH_2NHCH_2COOH	($cmnm^5s^2U$)	5

5′-O-MMTr, 2′-O-THP blocked uridine was phosphorylated with 2-chlorophenyl phosphorodichloridate and condensed with the 2′,3′-O-methoxymethylene protected modified uridines (ca 85% yield). Trifluoroacetyl was used as the additional blockage of mnm^5s^2U and $cmnm^5s^2U$ exoamino function. The fully blocked oligomers were deprotected to 1-5 (75% isolated yield) by treatment with N^1,N^1,N^3,N^3-tetramethylguanidium p-nitrobenzaldoxime (or 0.085N Et_4NOH in CH_3CN/H_2O for $cmnm^5s^2U$ bearing oligomer), followed by 0.02N hydrochloric acid in dioxane/water (1:1) system and their homogeneity was confirmed by the spectral, hplc and enzymatic digestion data. The next series of 1-5 "2-oxo-analogs" can be also obtained by the simple $S^2 \rightarrow O^2$ transformation on the oligomer level (2).

(1) H. Sierzputowska-Gracz, E. Sochacka, A. Małkiewicz, K. Kuo, Ch. W. Gehrke, P. F. Agris, J. Am. Chem. Soc. 109, 7171 (1987).
(2) Y. S. Prasada Rao, J. D. Cherayil, Biochem. J. 143, 285 (1974).