

DDTT Sulfurizing Reagent

<http://www.lumiprobe.com/p/ddtt-1192027-04-5>

DDTT is a sulfurizing reagent used to prepare phosphorothioate linkages, which increase the stability and nuclease resistance of nucleic acids, especially of RNA. It is suitable for automated synthesizers employing standard phosphoramidites for a large-scale synthesis of oligonucleotides.

DDTT demonstrates faster kinetics and higher stability in solution, compared to other sulfurizing reagents such as tetraethylthiuram disulfide (TETD) and Beaucage reagent, respectively. DDTT is commonly applied as a 0.05 M or 0.1 M solution in pyridine/acetonitrile and has a lifetime of up to 6 months.

Usage

Coupling: Sulfurization step must come before capping step. The optimum sulfurizing time for DDTT Sulfurizing Reagent, 0.05 M solution in pyridine/acetonitrile: 1 min for DNA or 6 min for RNA.

Deprotection: standard conditions.

General properties

Appearance:	lemon yellow crystals
Molecular weight:	205.33
CAS number:	1192027-04-5
Molecular formula:	$C_5H_7N_3S_3$
Quality control:	NMR 1H and HPLC-MS (95+%)
Storage conditions:	24 months after receipt at $-20^\circ C$ in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.

Oligo synthesis details

Diluent:	acetonitrile
Coupling conditions:	standard coupling, identical to normal nucleobases
Deprotection conditions:	identical to protected nucleobases