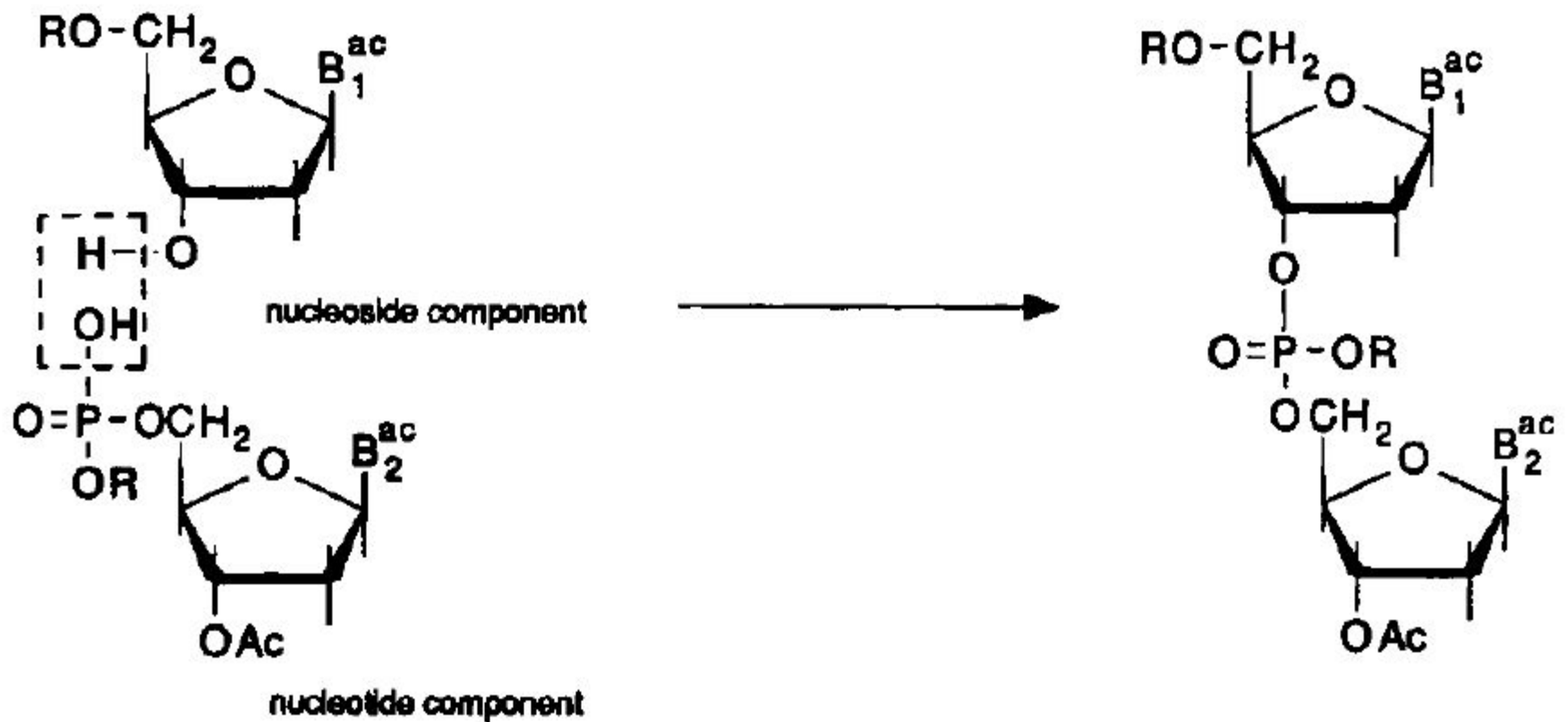


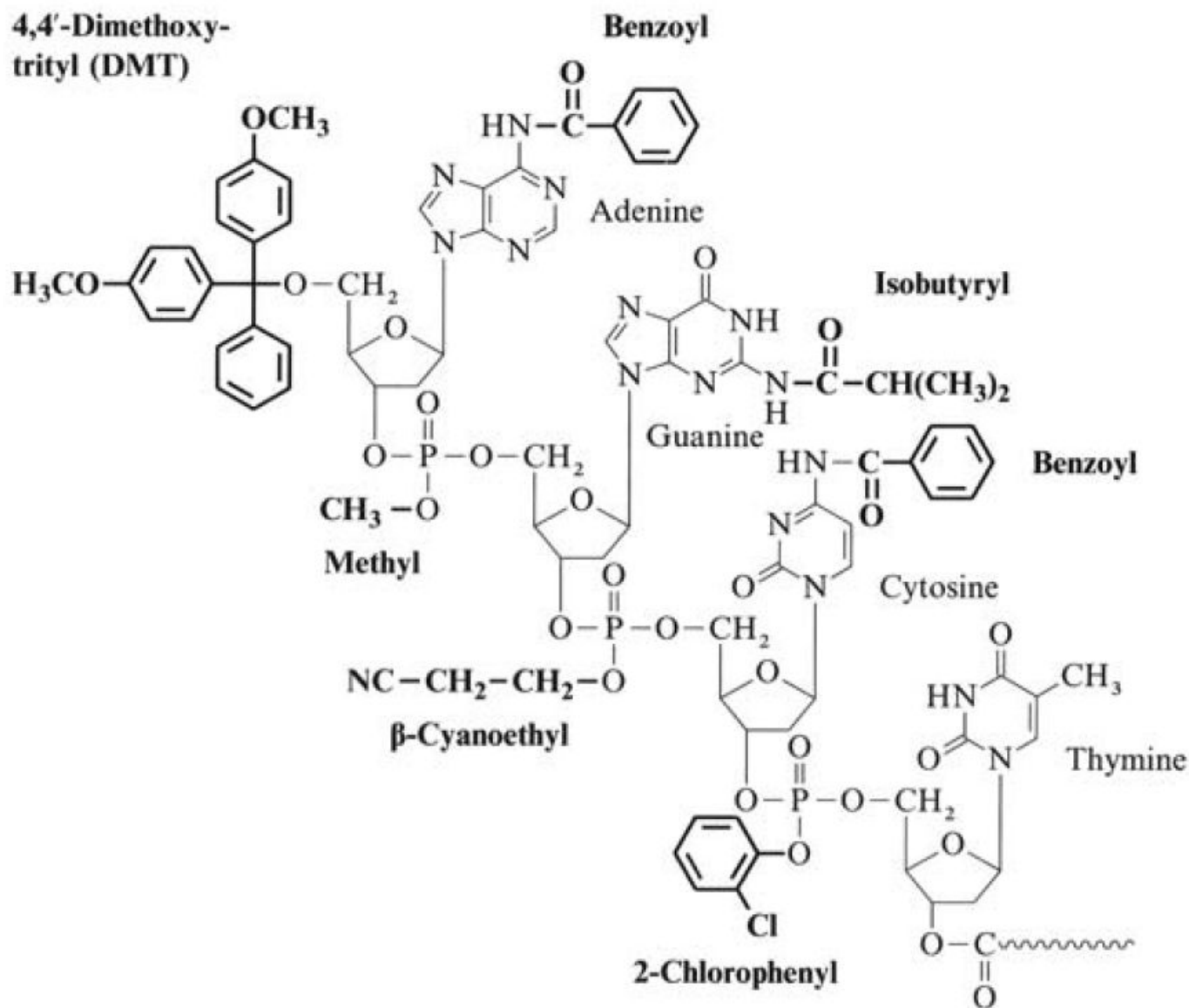
Синтез олигонуклеотидов

Основная реакция

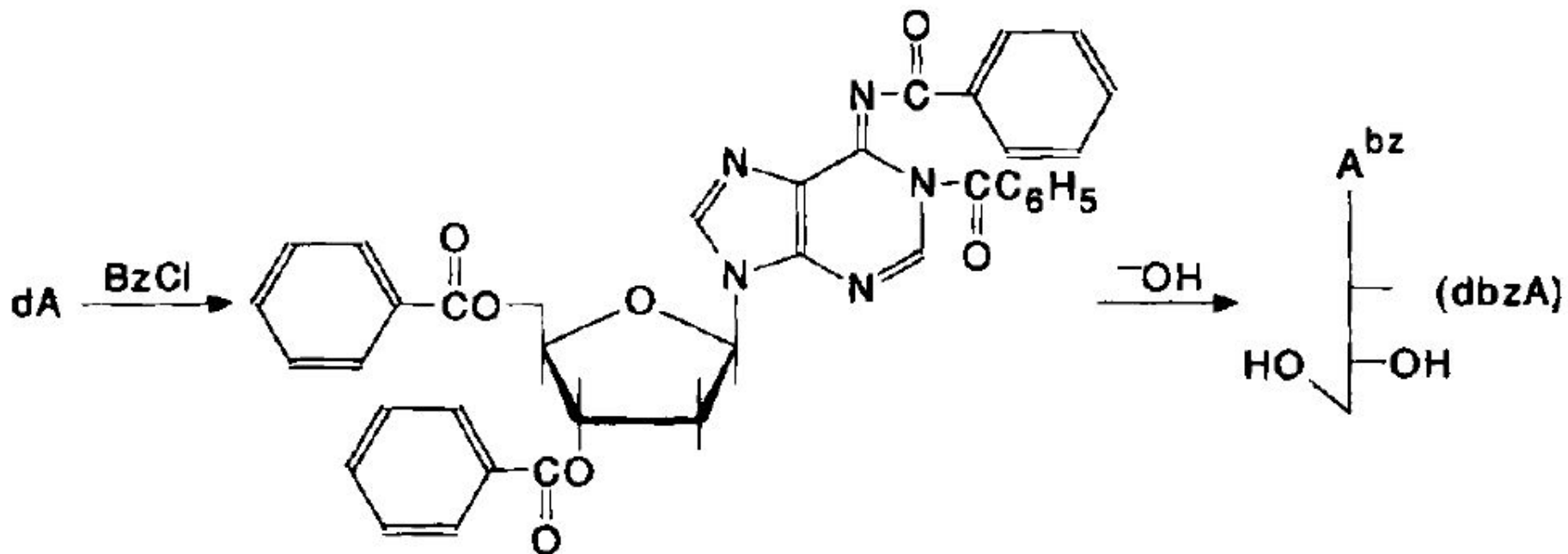


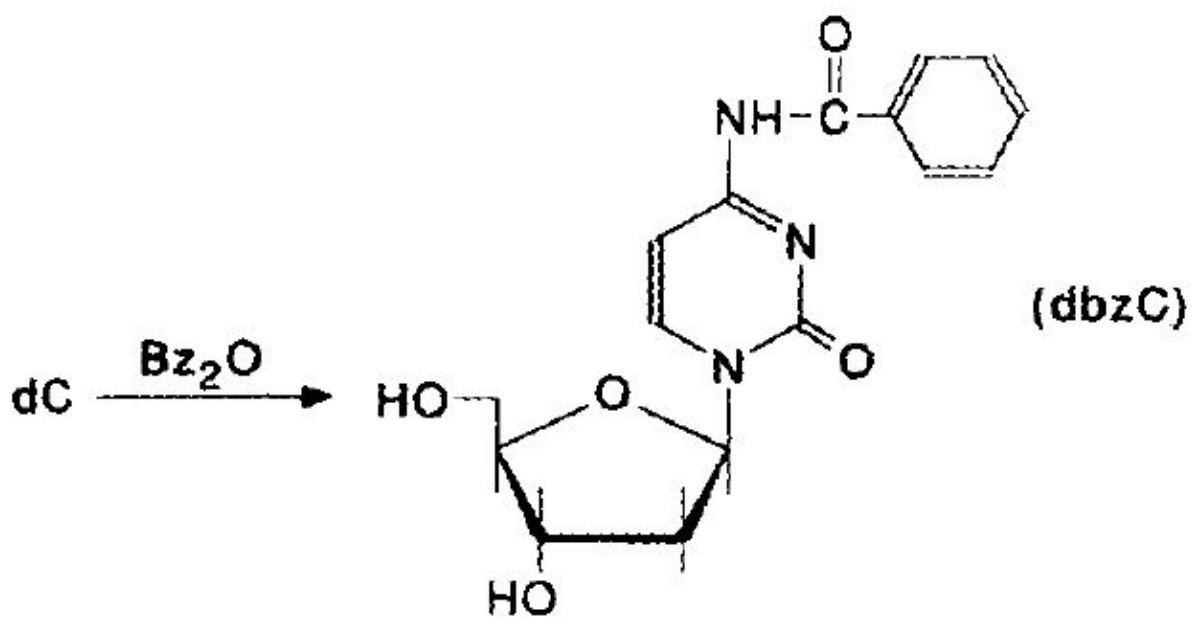
Защитные группы нуклеотидного синтеза

4,4'-Dimethoxy-
trityl (DMT)

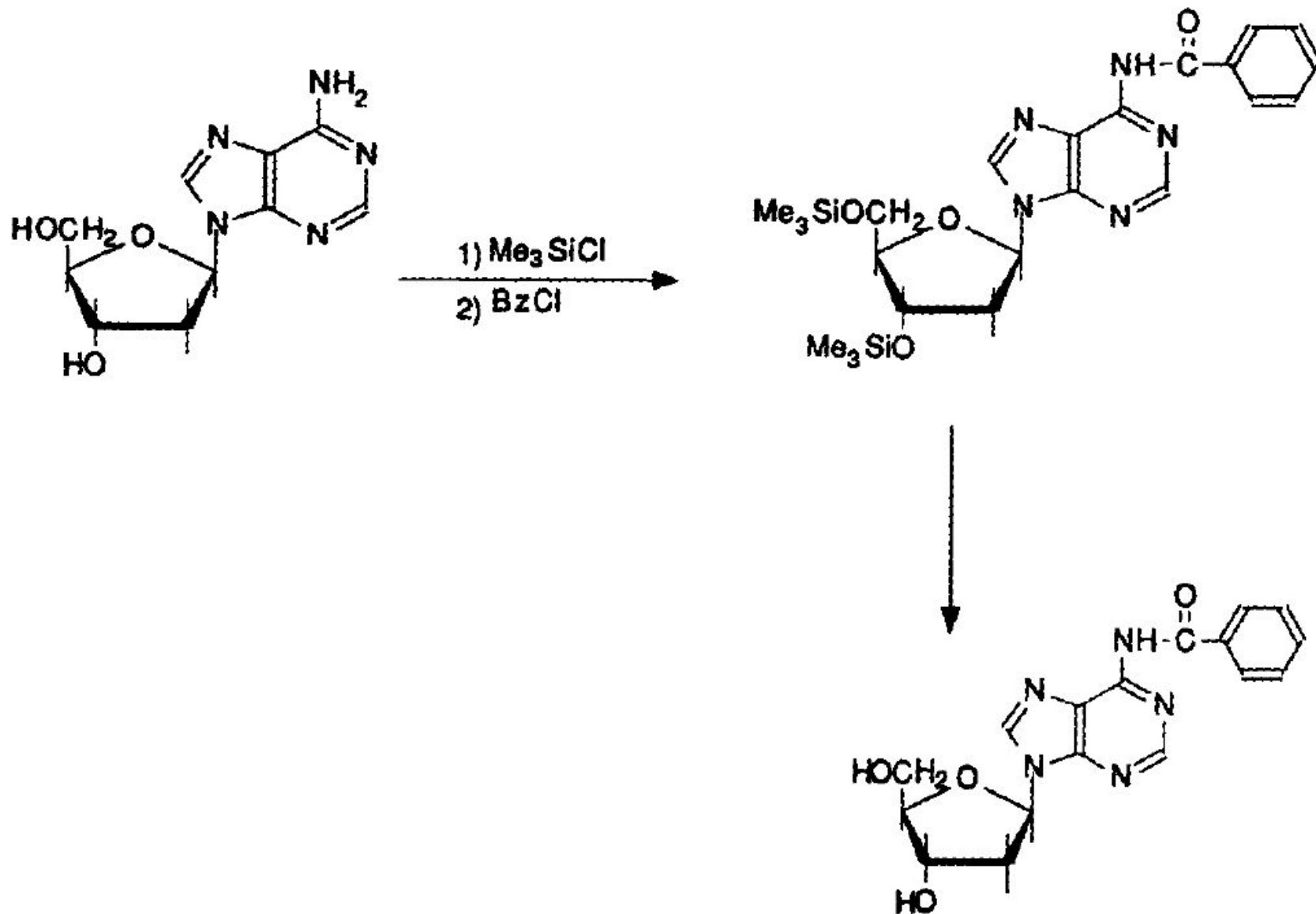


Подготовка исходных нуклеозидов

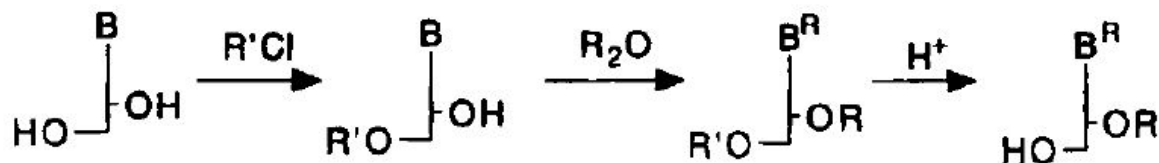
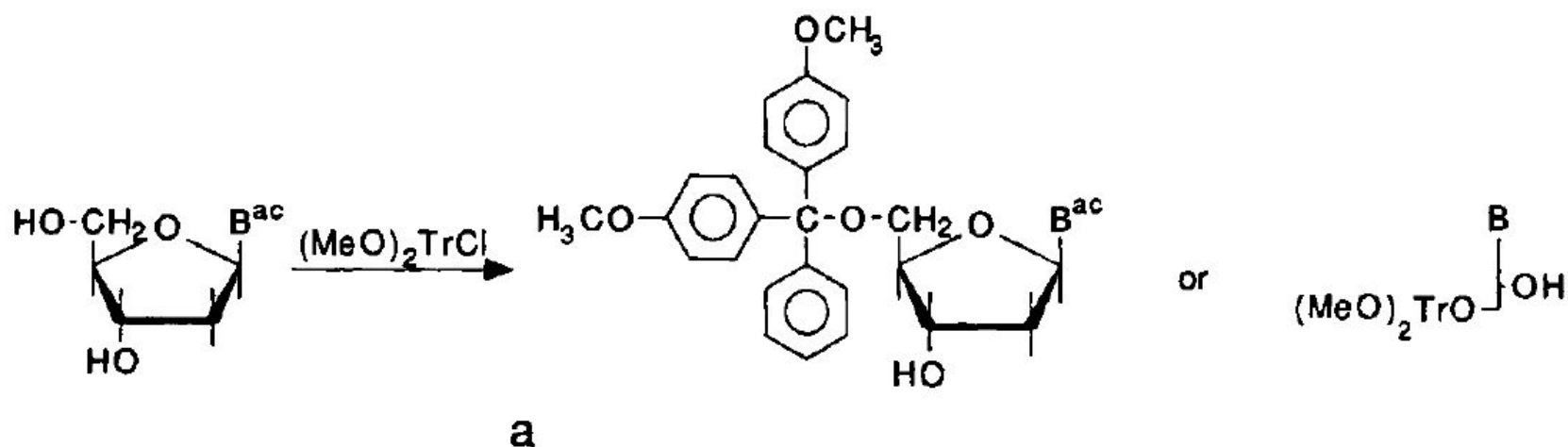




N-бензилоксиаденозин



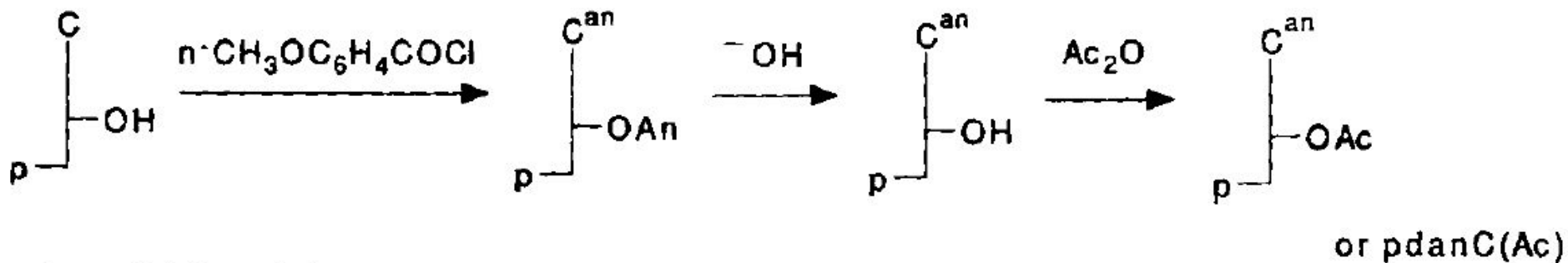
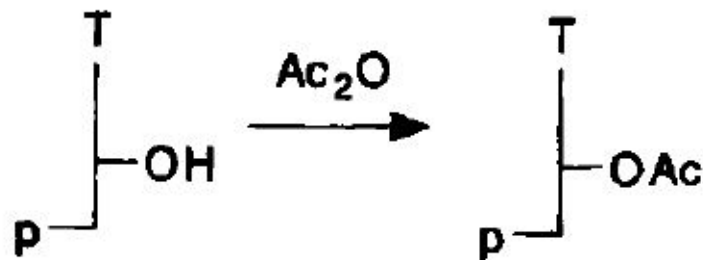
Защита гидроксильных групп углеводного фрагмента



$R = \text{CH}_3\text{CO}, (\text{CH}_3)_2\text{CHCO}, \text{C}_6\text{H}_5\text{CO}, n\text{-CH}_3\text{OC}_6\text{H}_4\text{CO}; \quad R' = \text{Tr}, \text{MeOTr}, (\text{MeO})_2\text{Tr}$

b

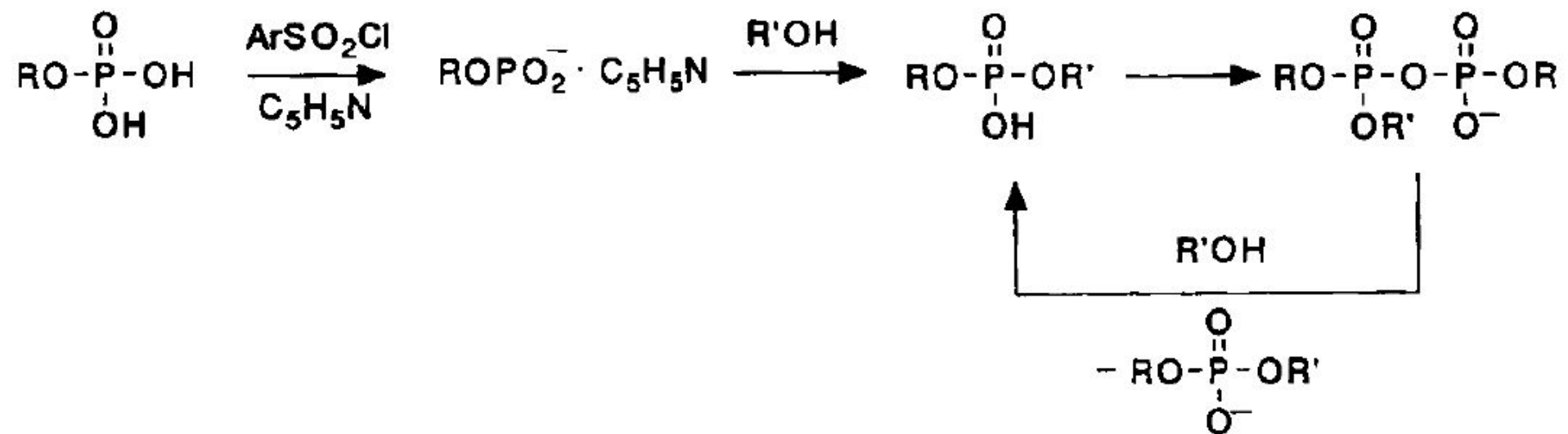
Подготовка исходных нуклеотидов



An = COC₆H₄OCH₃-p

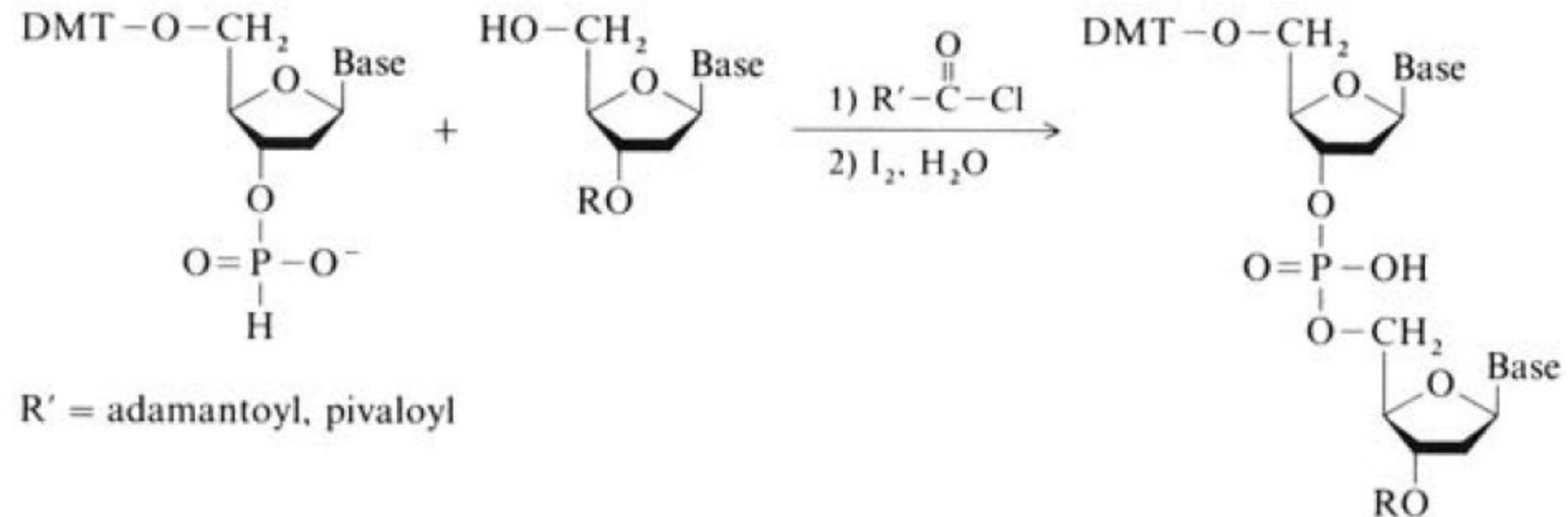
or pdanC(Ac)

Фосфорилирование

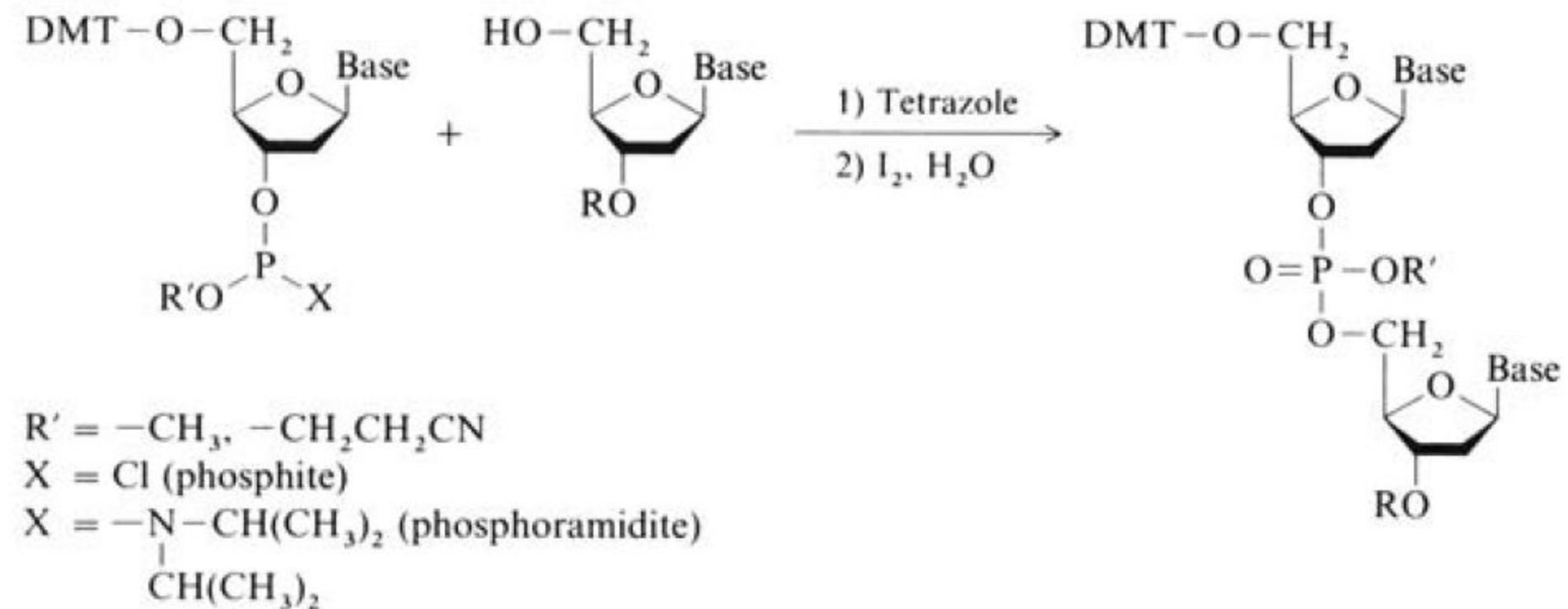
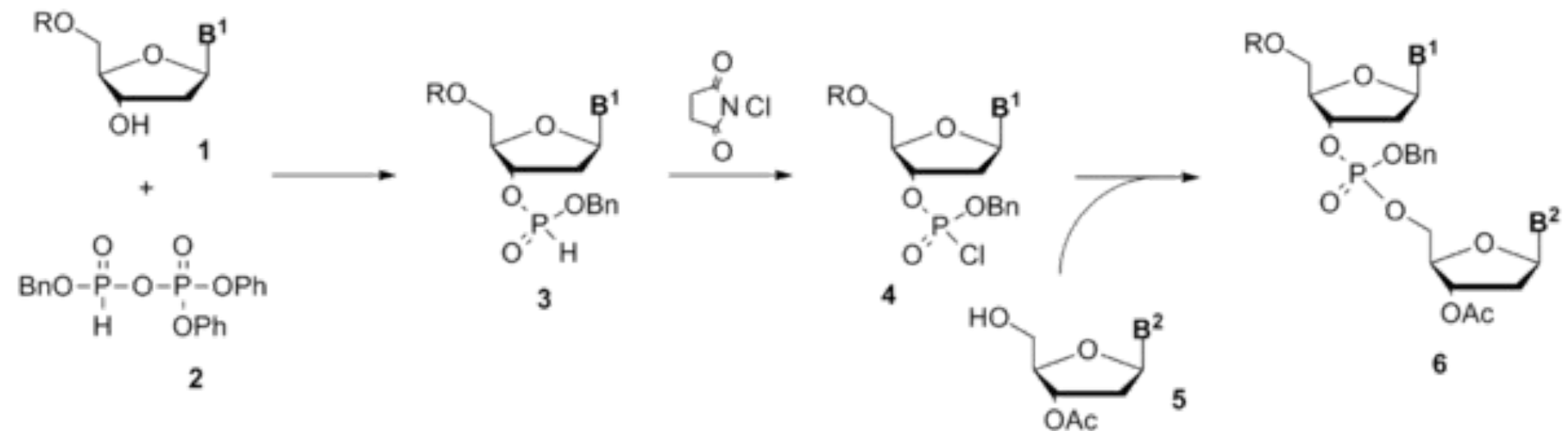


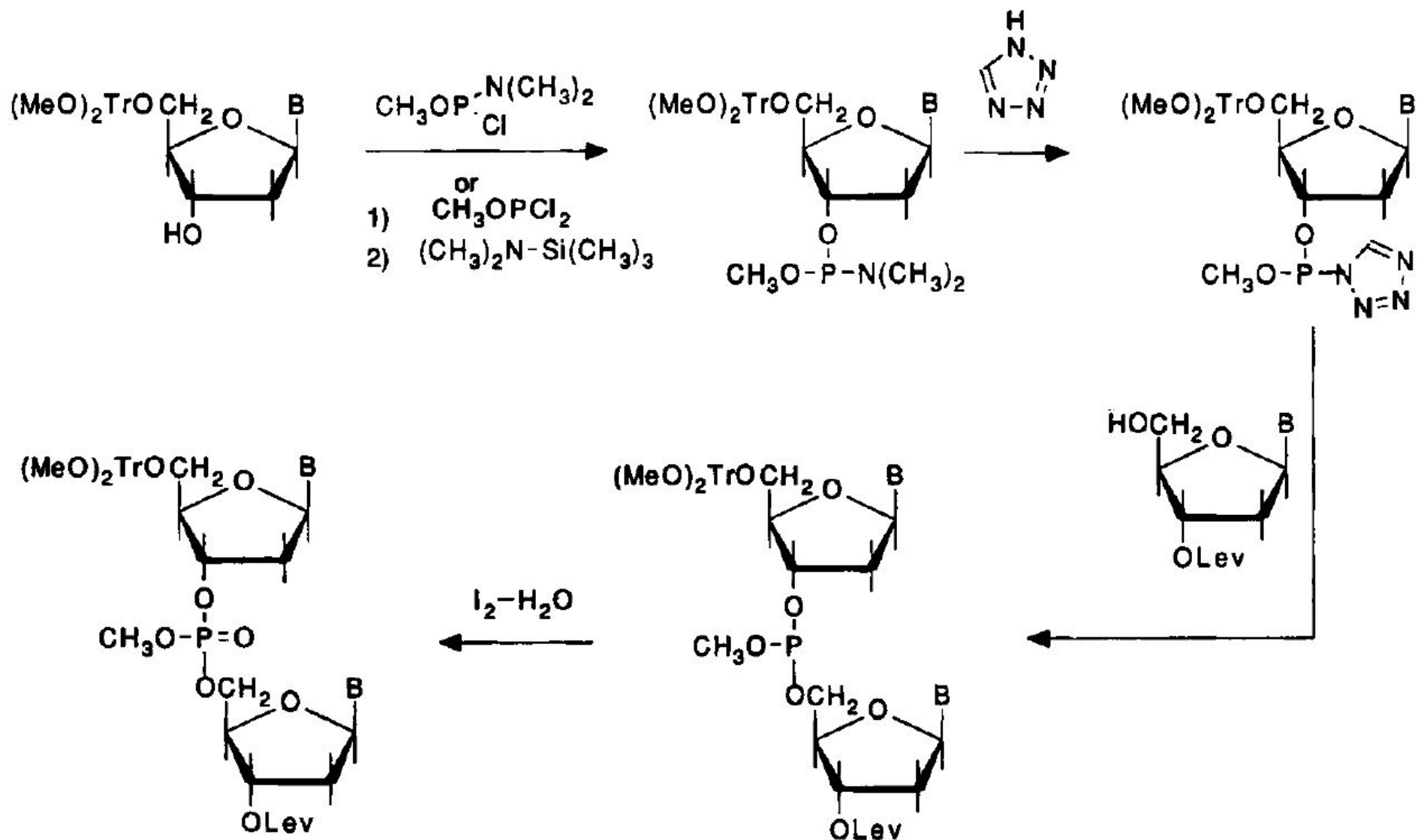
Н-фосфонатный метод

начало 1950-х годов группа Александра Тодда из Кембриджа



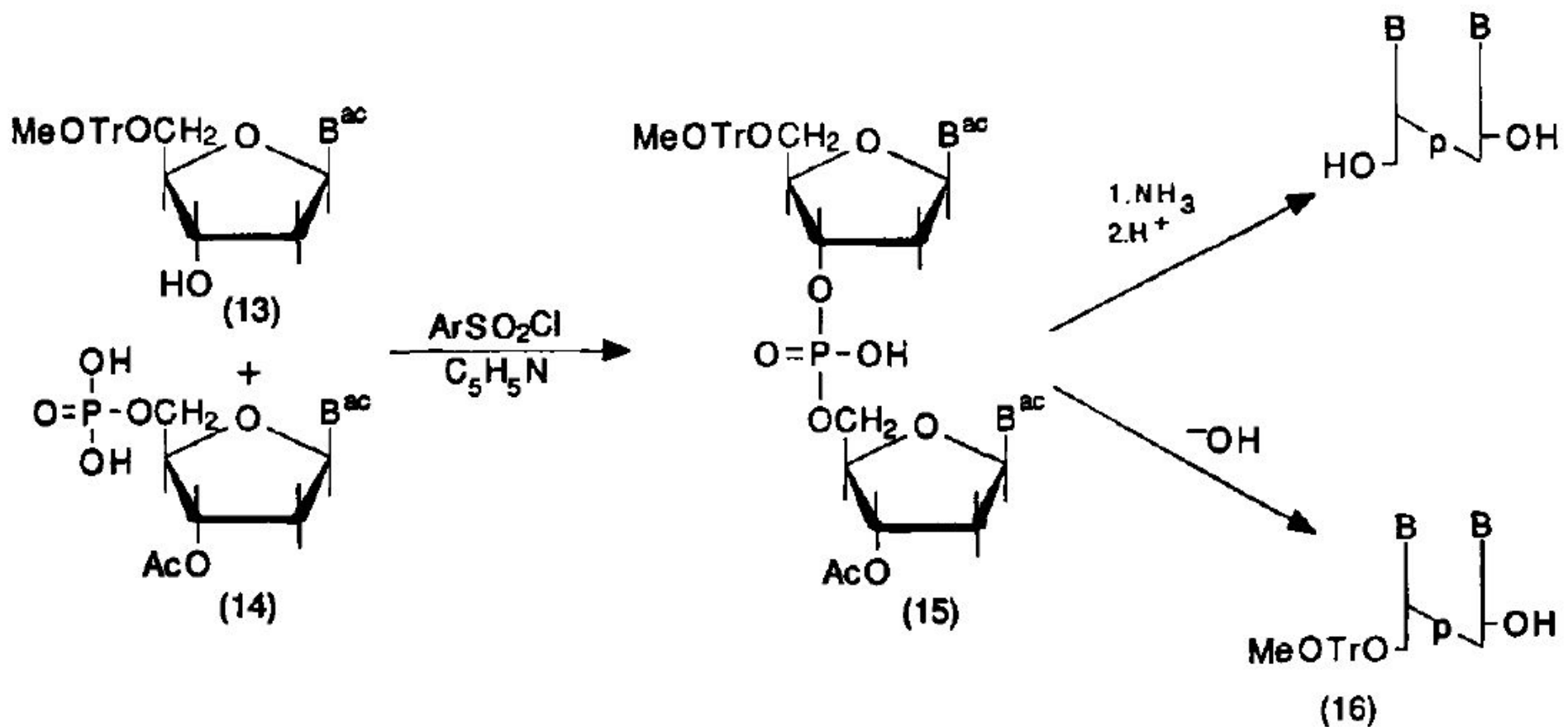
Фосфиттриэфирный метод

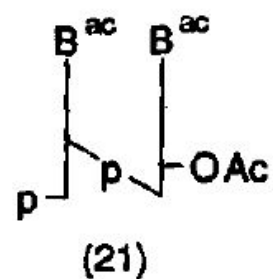
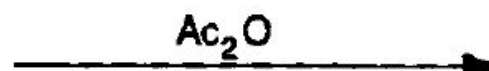
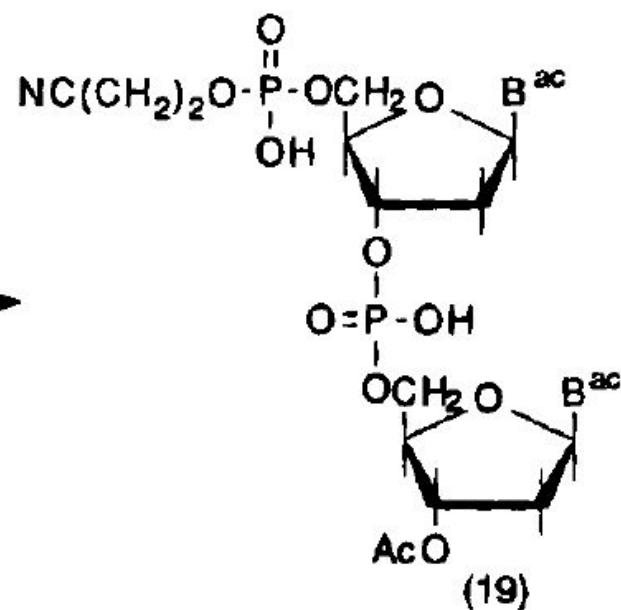
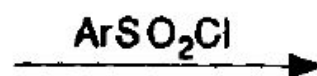
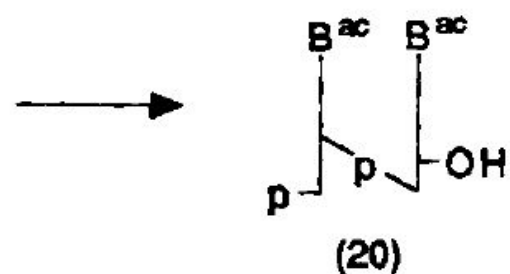
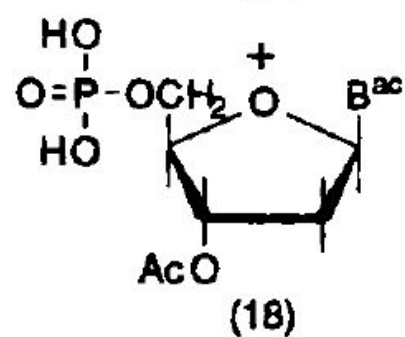
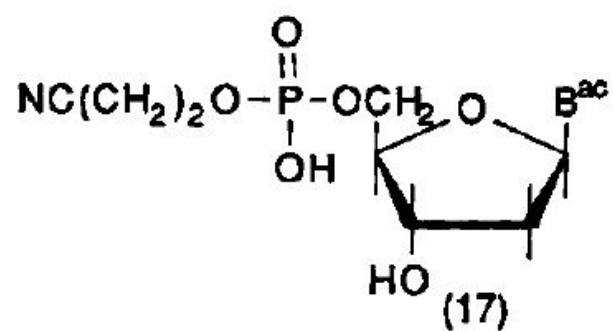




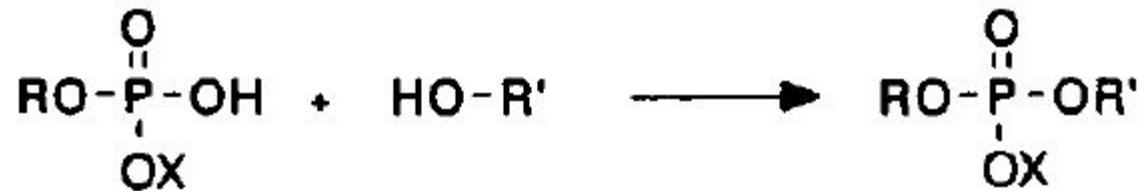
Lev – levulinic acid residue

Фосфодиэфирный метод

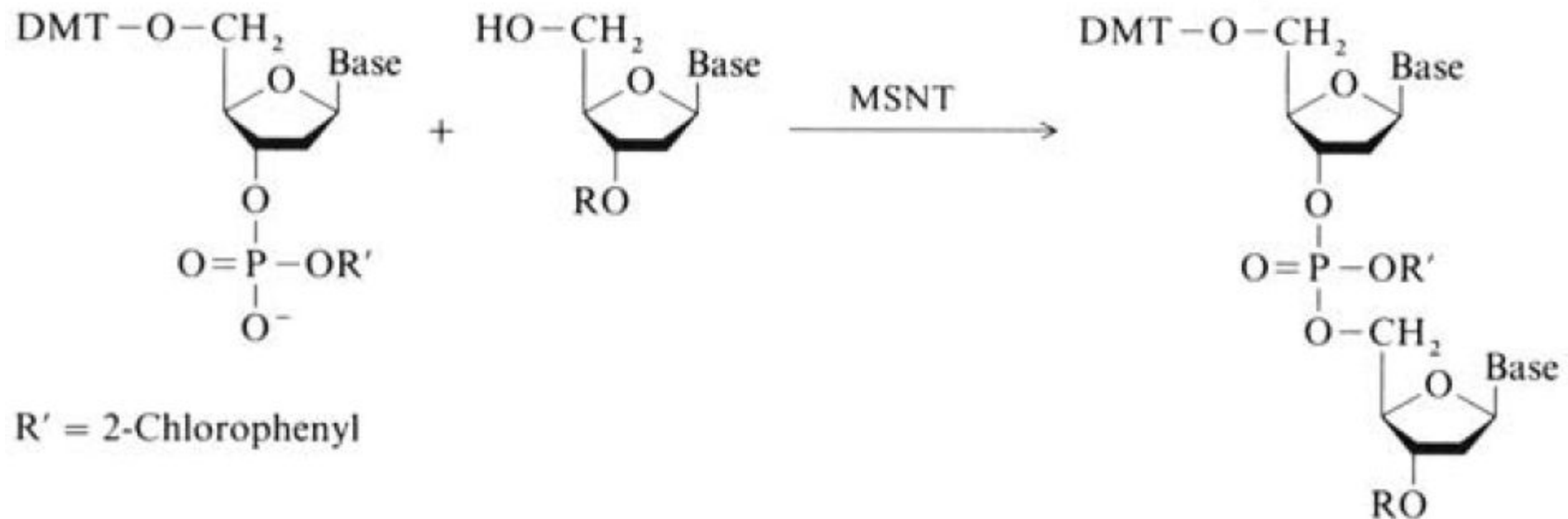


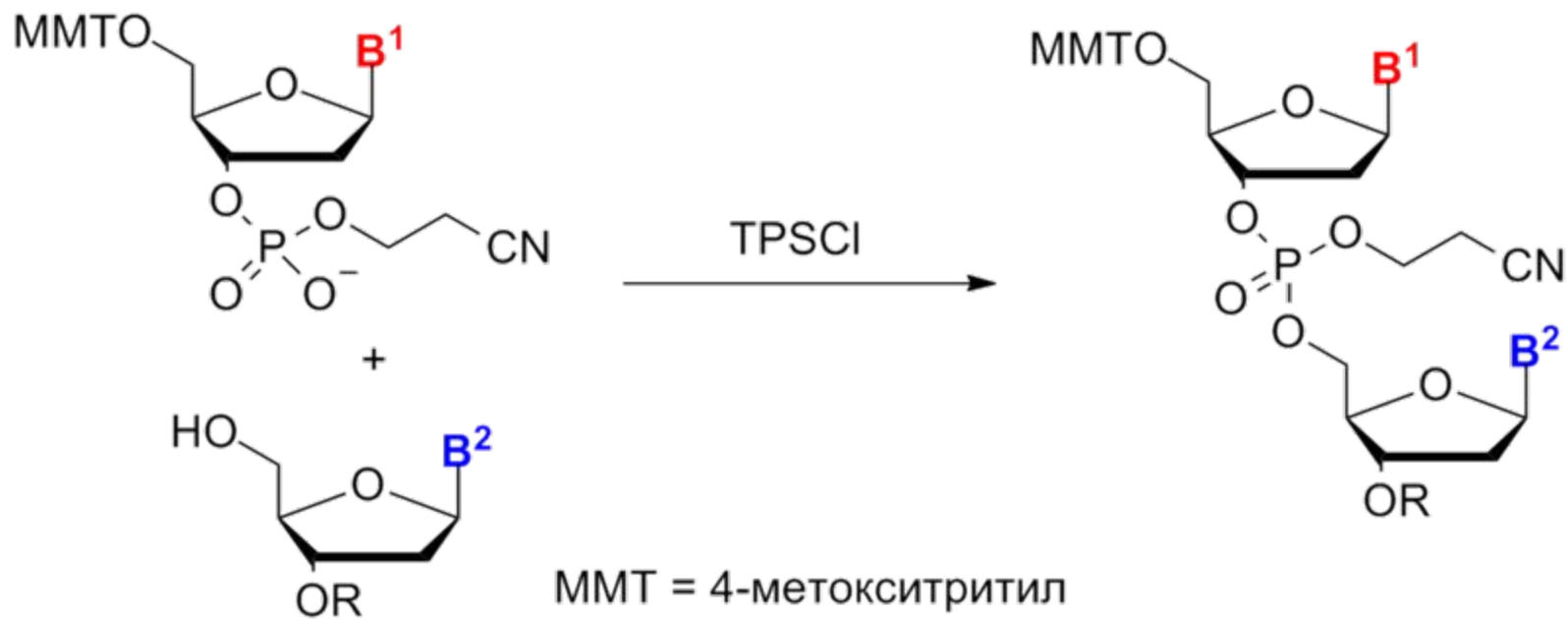


Фосфотриэфирный метод

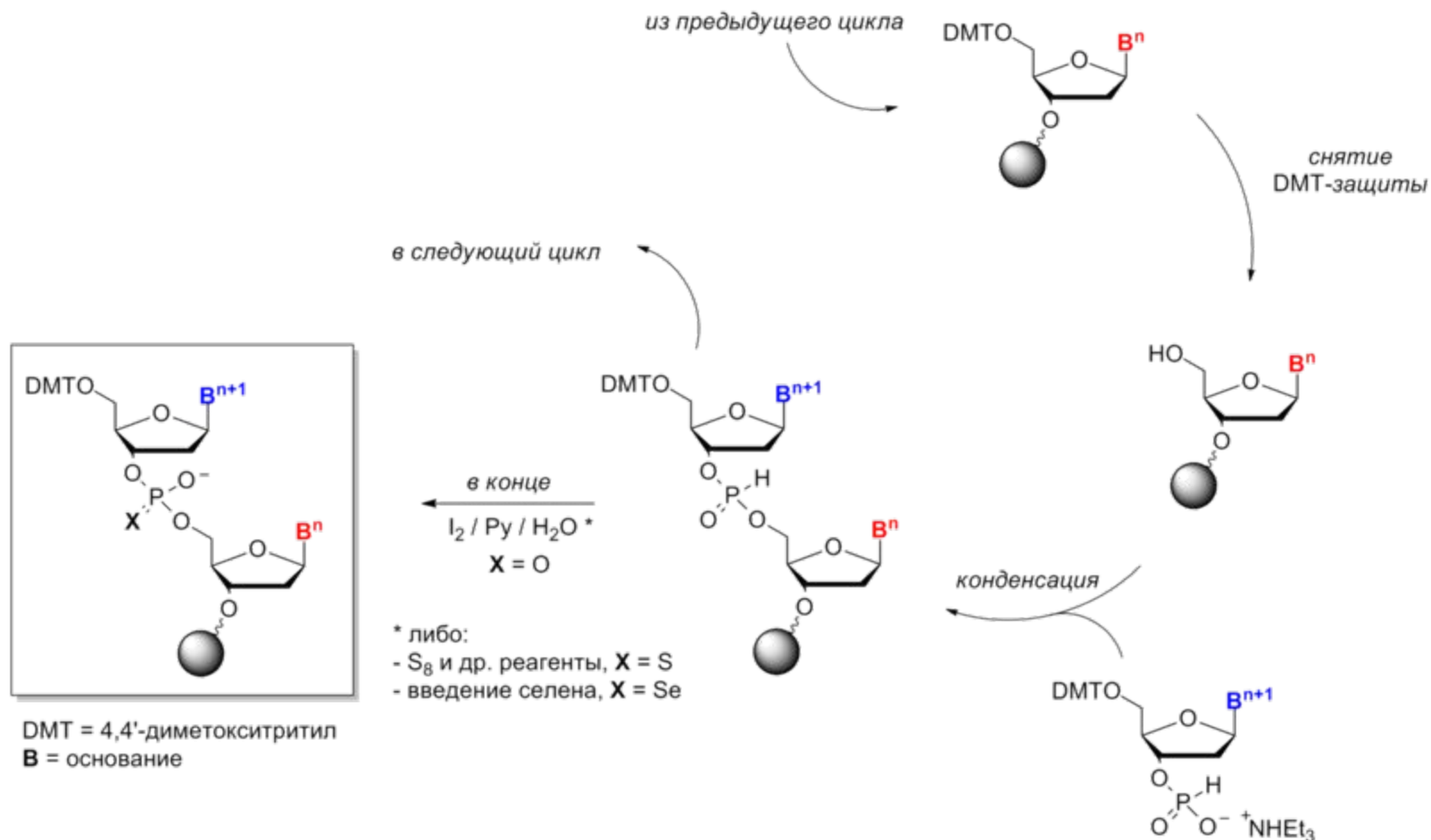


Phosphate triester method

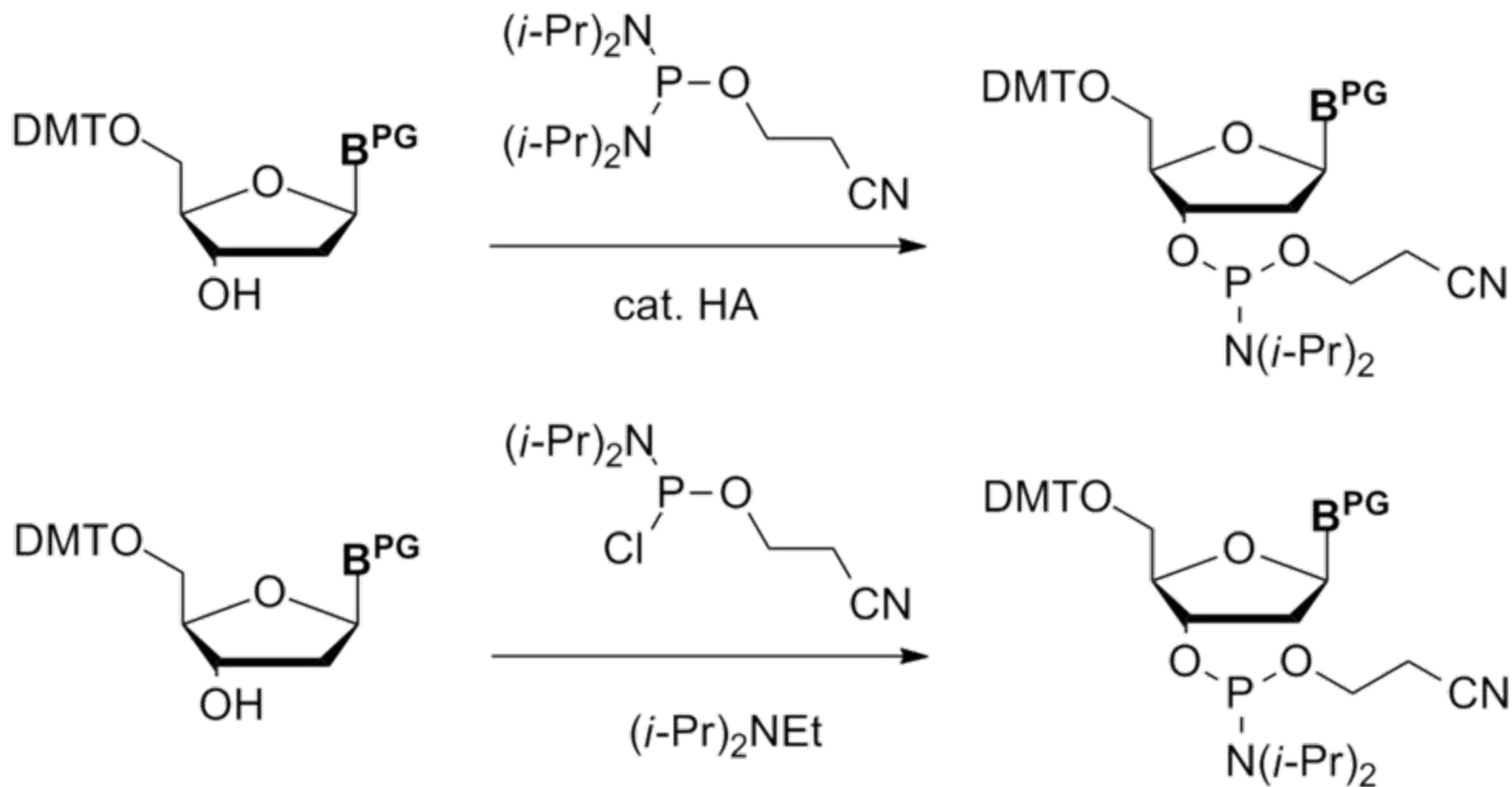




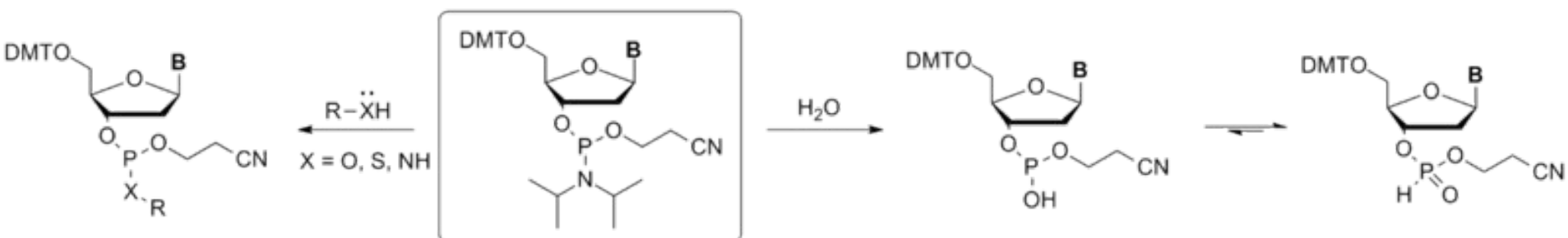
H-фосфонатный метод на твердом носителе



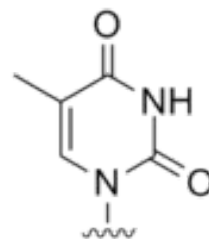
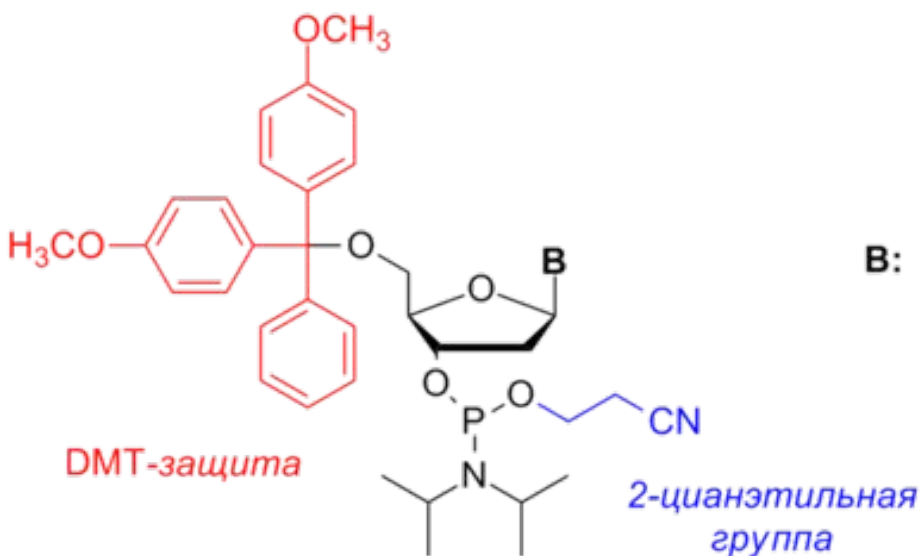
Амидофосфиты



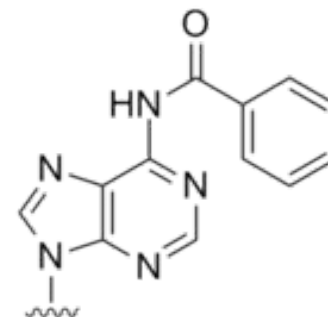
Реакционная способность амидофосфитов



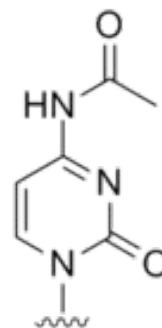
Защитные группы амидофосфитного метода



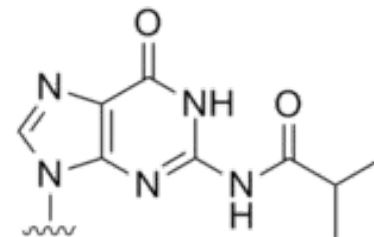
T



dA^{Bz}

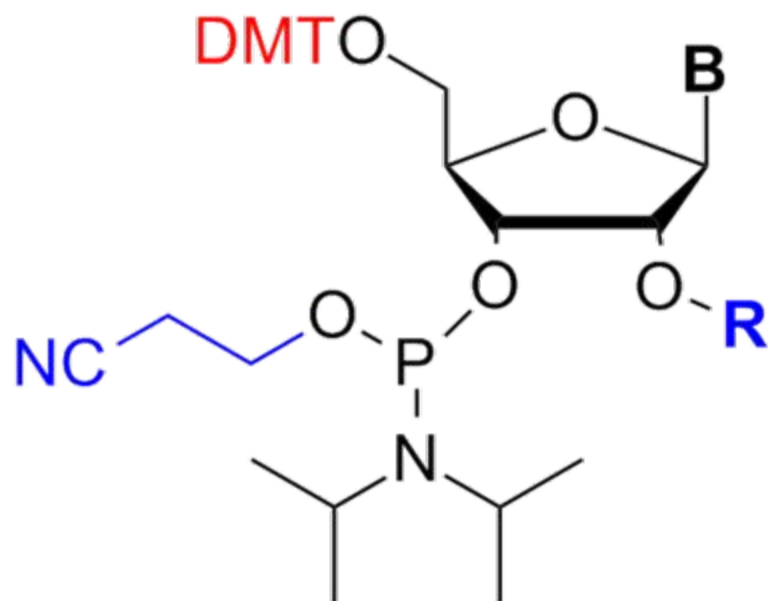


dC^{Ac}

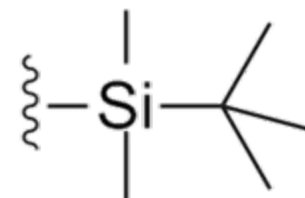


dG^{ib}

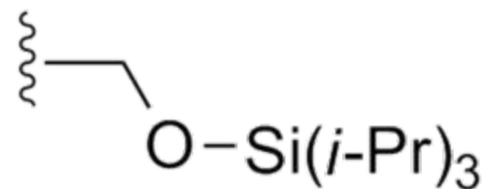
Защитные группы амидофосфитного метода



R:

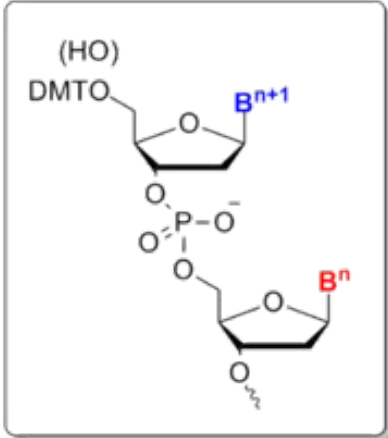


TBDMS

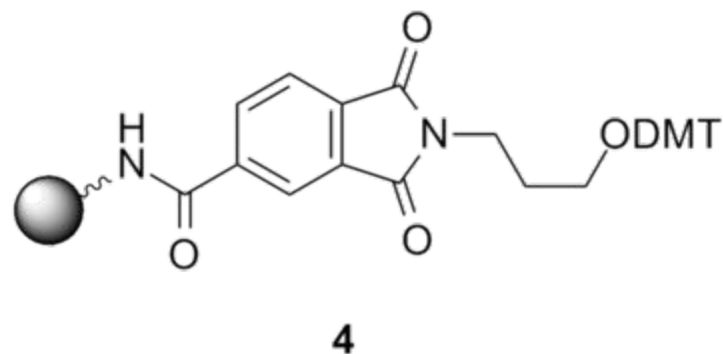
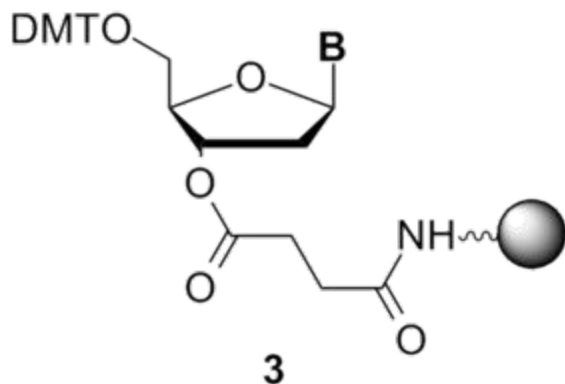
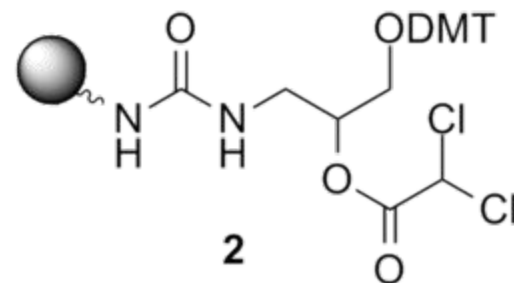
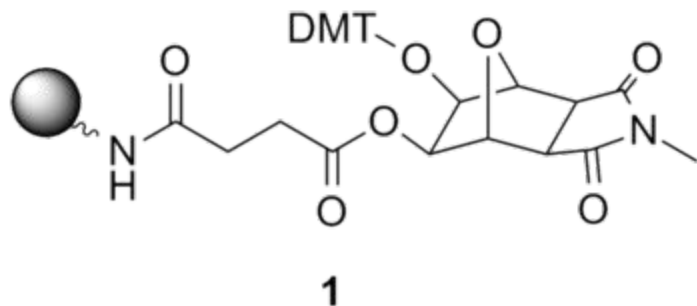


TOM

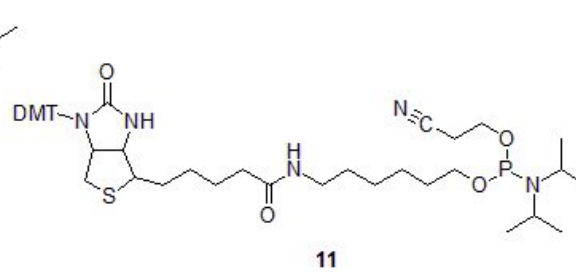
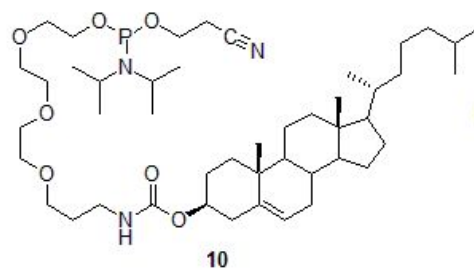
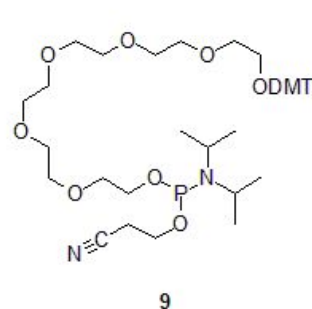
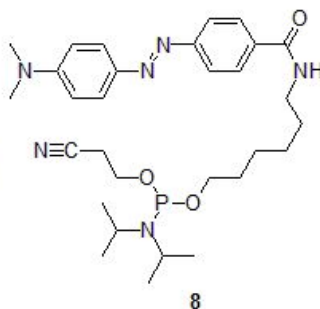
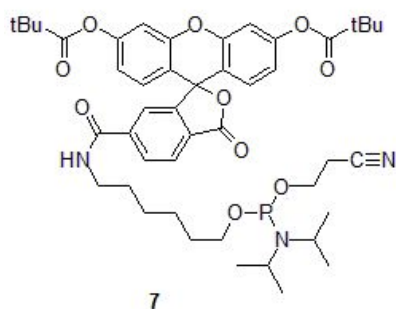
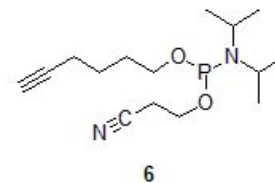
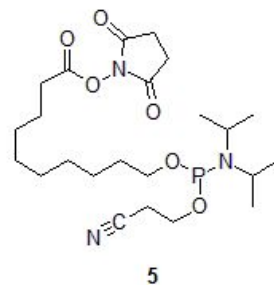
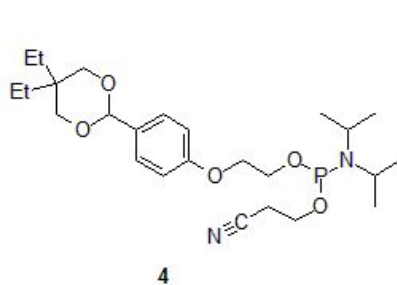
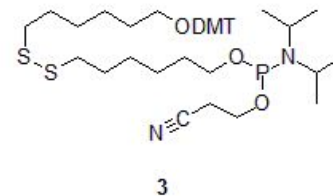
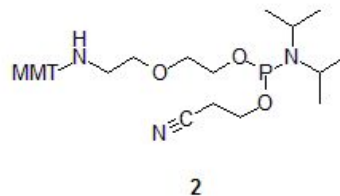
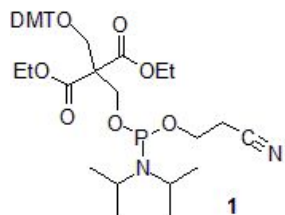
МЕТОДОМ

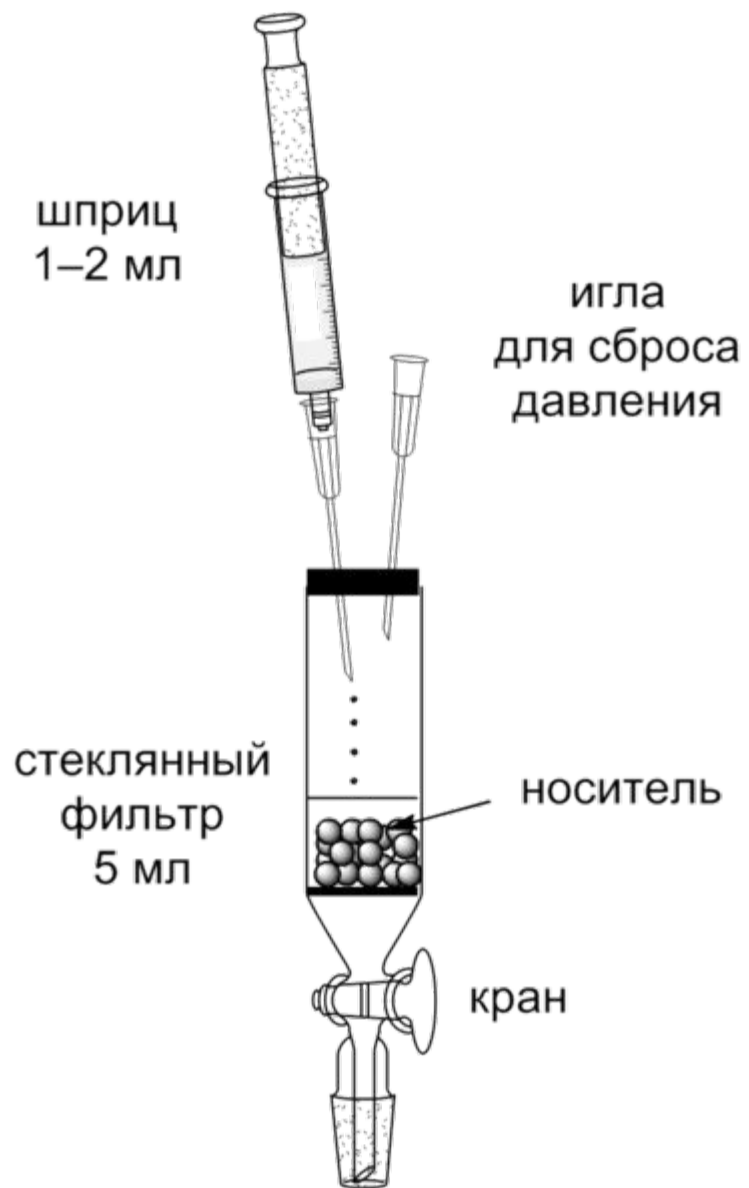


Сшивающие агенты для твердофазного синтеза



Структуры некоторых ненуклеозидных амидофосфитов







Пример масс-спектра олигонуклеотида

