

# MODYFIKOWANE URYDYNY

R: -CH<sub>3</sub> (**m<sup>5</sup>U**)

-OH (**h<sup>5</sup>U**)

-OCH<sub>3</sub> (**mo<sup>5</sup>U**)

-CHO (**f<sup>5</sup>U**)

-CH<sub>2</sub>OH (**hm<sup>5</sup>U**)

-CH<sub>2</sub>NH<sub>2</sub> (**nm<sup>5</sup>U**)

-CH<sub>2</sub>NHCH<sub>3</sub> (**mnm<sup>5</sup>U**)

-CH<sub>2</sub>NHCH<sub>2</sub>CH<sub>2</sub>SO<sub>3</sub>H (**τm<sup>5</sup>U**)

-CH<sub>2</sub>NHCH<sub>2</sub>COOH (**cmnm<sup>5</sup>U**)

-CH<sub>2</sub>CN (**cnm<sup>5</sup>U**)

-CH<sub>2</sub>COOCH<sub>3</sub> (**mcm<sup>5</sup>U**)

-CH<sub>2</sub>COOH (**cm<sup>5</sup>U**)

-CH<sub>2</sub>CONH<sub>2</sub> (**ncm<sup>5</sup>U**)

-CH<sub>2</sub>CH(OH)COOCH<sub>3</sub> (**S**) (**mchm<sup>5</sup>U**)

-CH<sub>2</sub>CH(OH)COOH (**S**) (**chm<sup>5</sup>U**)

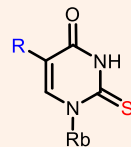
-CH<sub>2</sub>CH(OH)COOCH<sub>3</sub> (**R**) (**mchm<sup>5</sup>U**)

-CH<sub>2</sub>CH(OH)COOH (**R**) (**mchm<sup>5</sup>U**)

-CH<sub>2</sub>NHCH<sub>2</sub>CHCH<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub> (**inm<sup>5</sup>U**)

-OCH<sub>2</sub>COOCH<sub>3</sub> (**mcmo<sup>5</sup>U**)

-OCH<sub>2</sub>COOH (**cmo<sup>5</sup>U**)



R: -H (**s<sup>2</sup>U**)

-OCH<sub>3</sub> (**mo<sup>5</sup>s<sup>2</sup>U**)

-CHO (**f<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>OH (**hm<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>NH<sub>2</sub> (**nm<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>NHCH<sub>3</sub> (**mnm<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>NHCH<sub>2</sub>CH<sub>2</sub>SO<sub>3</sub>H (**τm<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>NHCH<sub>2</sub>COOH (**cmnm<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>COOCH<sub>3</sub> (**mcm<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>COOH (**cm<sup>5</sup>s<sup>2</sup>U**)

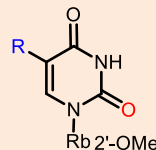
-CH<sub>2</sub>CONH<sub>2</sub> (**ncm<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>CH(OH)COOCH<sub>3</sub> (**S**) (**mchm<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>CH(OH)COOCH<sub>3</sub> (**R**) (**mchm<sup>5</sup>s<sup>2</sup>U**)

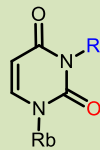
-CH<sub>2</sub>CH(OH)COOH (**S**) (**chm<sup>5</sup>s<sup>2</sup>U**)

-CH<sub>2</sub>CH(OH)COOH (**R**) (**chm<sup>5</sup>s<sup>2</sup>U**)



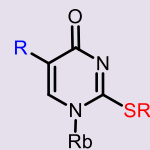
R: -CH<sub>2</sub>COOCH<sub>3</sub> (**mcm<sup>5</sup>Um**)

-CH<sub>2</sub>COOH (**cm<sup>5</sup>Um**)



R: -CH<sub>3</sub> (**m<sup>3</sup>U**)

-CH<sub>2</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)COOH (**acp<sup>3</sup>U**)

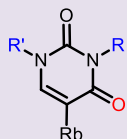


R:-H R': geranyl (**ges<sup>2</sup>U**)

R: -CH<sub>2</sub>NHCH<sub>3</sub> R': geranyl (**mnm<sup>5</sup>ges<sup>2</sup>U**)

R: -CH<sub>2</sub>NHCH<sub>2</sub>COOH R': geranyl (**cmnm<sup>5</sup>ges<sup>2</sup>U**)

R: -H R': Me (**ms<sup>2</sup>U**)



R': -CH<sub>3</sub>, R: -H (**m<sup>1</sup>Ψ**)

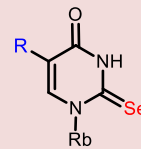
R': -H, R: -CH<sub>3</sub> (**m<sup>3</sup>Ψ**)

R': -CH<sub>3</sub>, R: -CH<sub>3</sub> (**m<sup>1</sup>m<sup>3</sup>Ψ**)

R': -CH<sub>3</sub>, R: -CH<sub>2</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)COOH (**m<sup>1</sup>acp<sup>3</sup>Ψ**)



**s<sup>4</sup>U**  
**s<sup>2,4</sup>U**

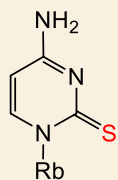


R:-H (**se<sup>2</sup>U**)

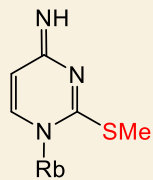
R: -CH<sub>2</sub>NHCH<sub>3</sub> (**mnm<sup>5</sup>se<sup>2</sup>U**)

R: -CH<sub>2</sub>NHCH<sub>2</sub>COOH (**cmnm<sup>5</sup>se<sup>2</sup>U**)

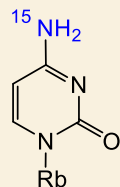
# MODYFIKOWANE CYTYDYNY



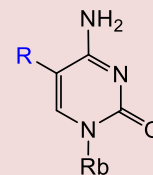
**s<sup>2</sup>C**



**ms<sup>2</sup>C**



**[<sup>15</sup>N]C**



R: -CH<sub>3</sub> (**m<sup>5</sup>C**)

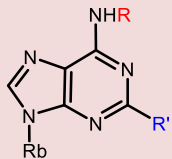
-CH<sub>2</sub>OH (**hm<sup>5</sup>C**)

-CHO (**f<sup>5</sup>C**)

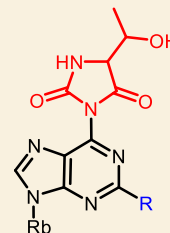
-COOH (**ca<sup>5</sup>C**)

-CF<sub>3</sub>

# MODYFIKOWANE ADENOZYNY

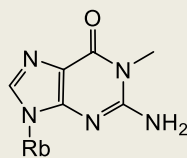


- R: -Me, R': -H ( $m^6A$ )
- R:  $-CH_2OH$ , R': -H ( $hm^6A$ )
- R:  $-C(O)H$ , R': -H ( $t^6A$ )
- R:  $-CH_2CH=C(CH_3)_2$ , R': -H ( $i^6A$ )
- R:  $-CH_2CH=C(CH_3)_2$ , R':  $-SCH_3$  ( $ms^2i^6A$ )
- R:  $-C(O)NHCH(COOH)CH(OH)CH_3$ , R': -H ( $t^6A$ )
- R:  $-C(O)NHCH(COOH)CH(OH)CH_3$ , R: Me R': -H ( $m^6t^6A$ )
- R:  $-C(O)NHCH(COOH)CH(OH)CH_3$ , R':  $-SCH_3$  ( $ms^2t^6A$ )
- R:  $-C(O)NHCH_2COOH$ , R': -H ( $g^6A$ )
- R: H, R': Me ( $m^2A$ )

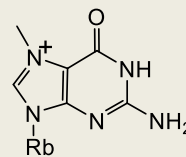


- R: -H ( $ct^6A$ )
- R:  $-SCH_3$  ( $ms^2ct^6A$ )

# MODYFIKOWANE GUANOZYNY



$m^1G$



$m^7G$