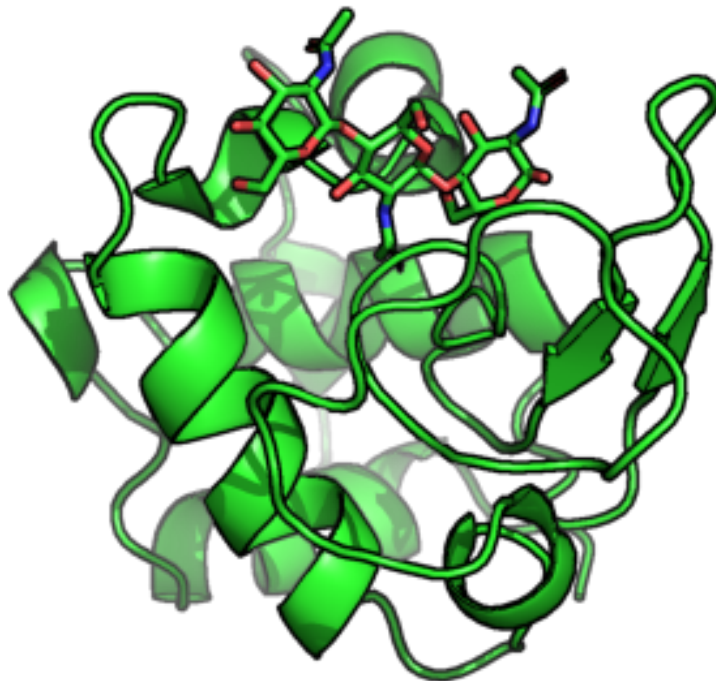


fetch 1lmp

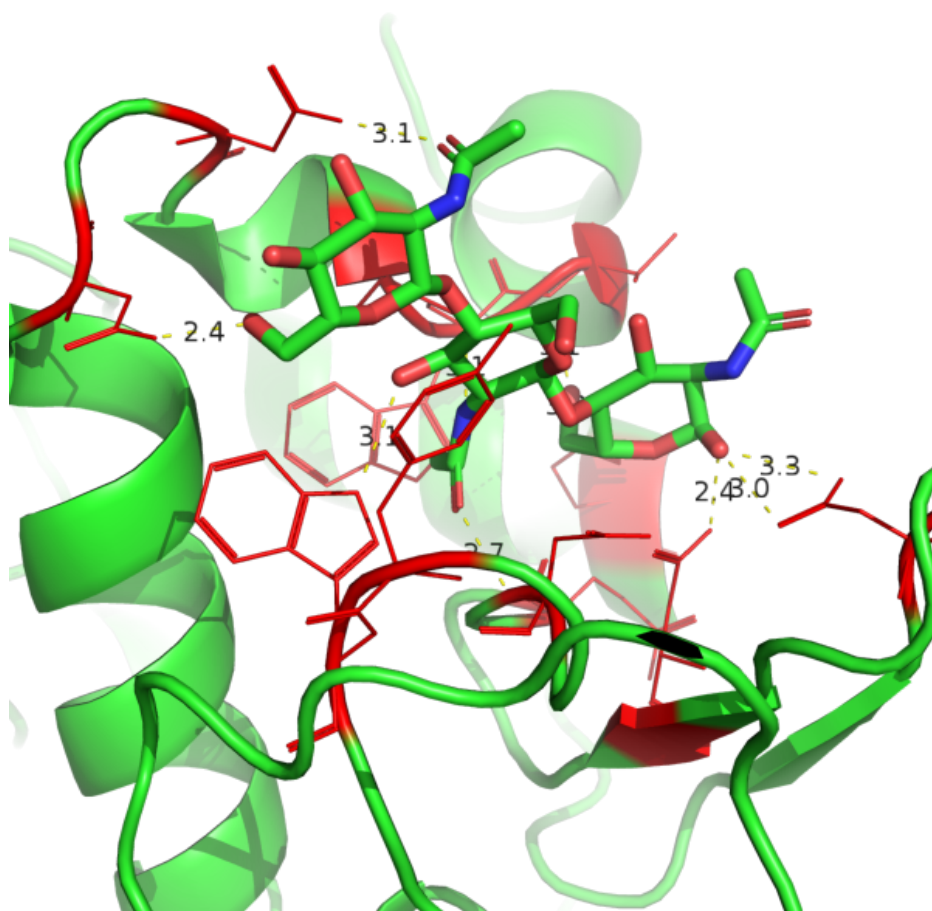
```
extract water , resn HOH  
delete water  
set opaque_background , off  
set ray_trace_mode , 1  
set antialias , 2  
bg_color white  
select leg , resn NAG+NDG  
select prot , not leg  
center  
zoom  
ray 500,500
```



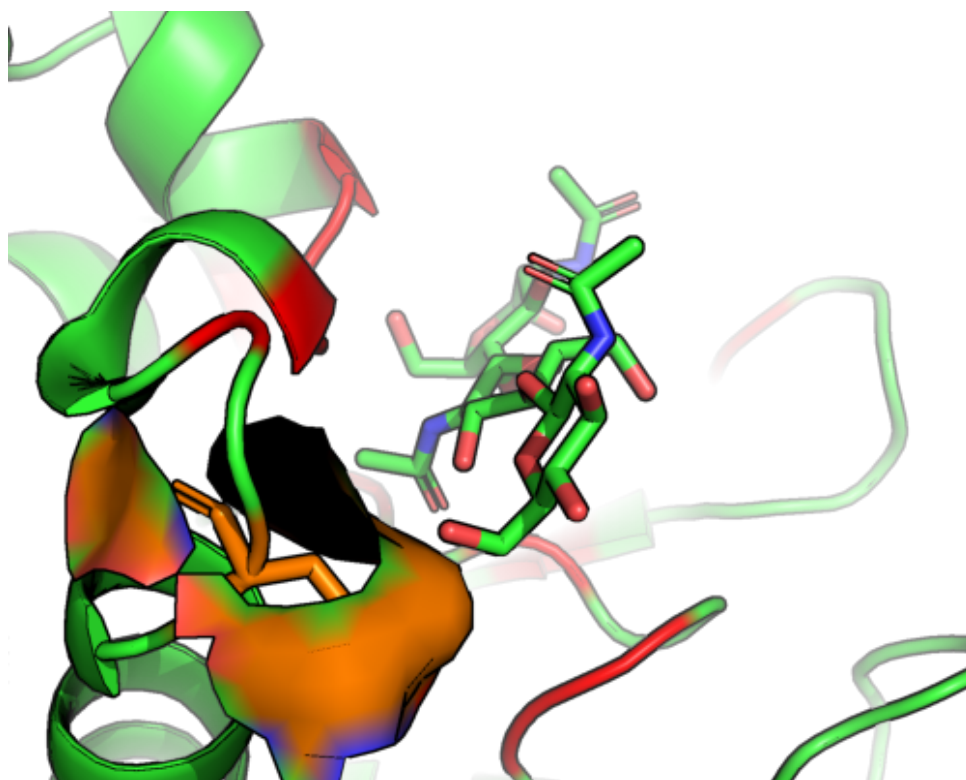
## Водородные связи

```
set dash_width , 1  
set ray_trace_mode , 0  
select cont , byres prot within 3.5 of leg  
show lines , cont  
color red , cont
```

```
distance hbond , cont , leg , 3.5 , 2  
set dash_color , yellow  
zoom cont  
ray 500, 500
```



```
hide dashes , hbond  
hide label , hbond  
hide lines , cont  
set ray_trace_mode , 1  
show surface , resi 101  
color orange , resi 101  
show sticks , resi 101  
center resi 101  
zoom resi 101 + leg  
ray 500,500
```



## Мутация

```
hide dashes , hbond  
hide label , hbond  
hide lines , cont  
wizard mutagenesis  
select resi 101  
set_mode VAL
```

```
save 1lmp_mut.pdb
```

```
select mut , resn NAG+NDG+resi 101  
center mut  
show surface , resi 101  
set transparency , 0.7  
zoom mut  
ray 500,500
```



Видео!

```
load 1lmp.pdb
load 1lmp_mut.pdb
```

```
set matrix_mode, 1
set movie_panel, 1
set scene_buttons, 1
set cache_frames, 1
```

```
hide everything
show sticks, all
color green, 1lmp
color blue, 1lmp_mut
color yellow, resn NAG+NDG
color white, /1lmp_mut//A/VAL`101
color red, /1lmp//A/ASP`101
set movie_auto_interpolate, off
```

```
select mut, resi 101
```

```
translate [150,0,0]
rotate y, 15, object=1lmp_mut
```

```
orient 1lmp or 1lmp_mut
```

```
mset 1 x200
frame 1
mview store
mview store, object=1lmp_mut
mview store, object=1lmp
```

```
madd 1 x3
frame 300
rotate y, -15.5, object= 1lmp_mut
mview store, object= 1lmp_mut
mview store
mview interpolate, object= 1lmp_mut
mview reinterpolate
```

```
super 1lmp, 1lmp_mut
```

```
orient mut
mview store
```

madd 1 x30

mview interpolate, object=1lmp\_mut

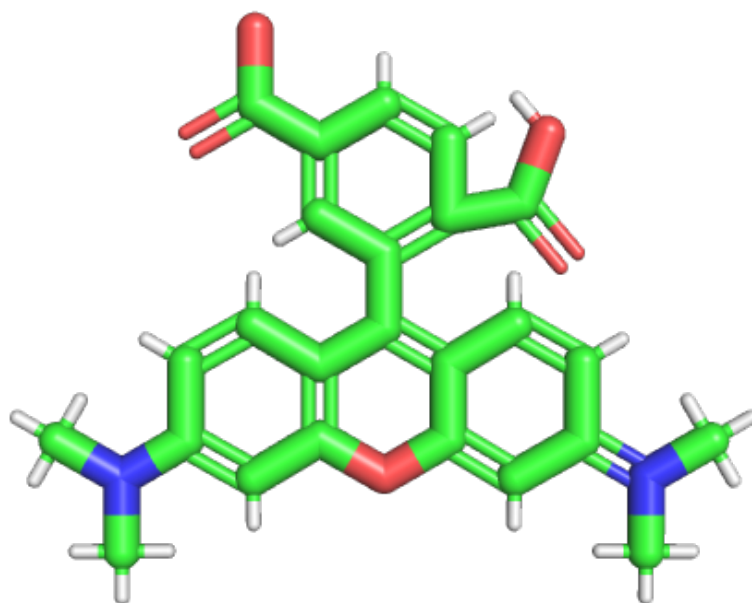
mview interpolate, object=1lmp

mview reinterpolate

mplay

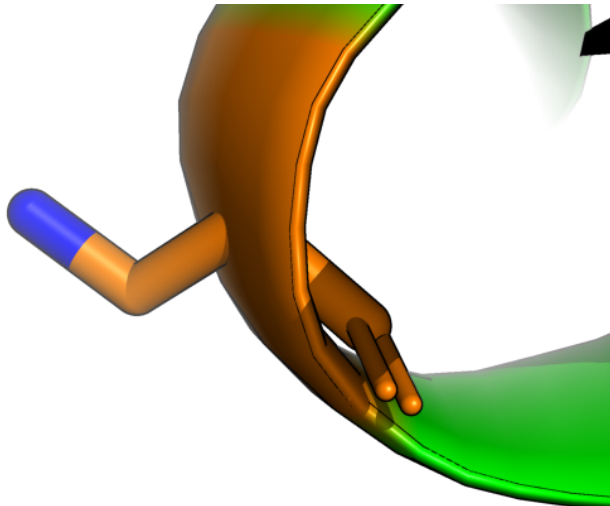
## Присоединение флуоресцентной метки TAMRA

```
open tamra.sdf
select tamra, tamra
bg_color white
ray 500, 500
```



```
fetch 1lmp
extract water , resn HOH
delete water
set opaque_background , off
set ray_trace_mode , 1
set antialias , 2
select leg , resn NAG+NDG
select prot , not leg
color green , prot
show sticks , leg
color yellow , leg
```

select se , /1mp//A/SER`32  
show sticks , se  
color orange , se  
center se  
zoom se  
select og , /1mp//A/SER`32/OG  
color blue , og  
ray 500,500



fuse /1mp//A/SER`32/OG , /tamra///UNK`0/O  
ray 500, 500

