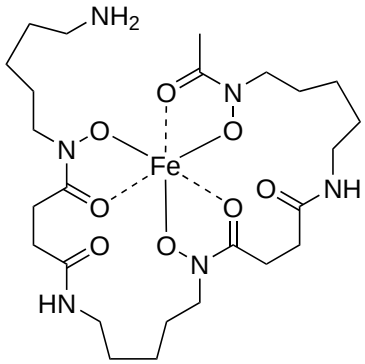

Deferoxamine B
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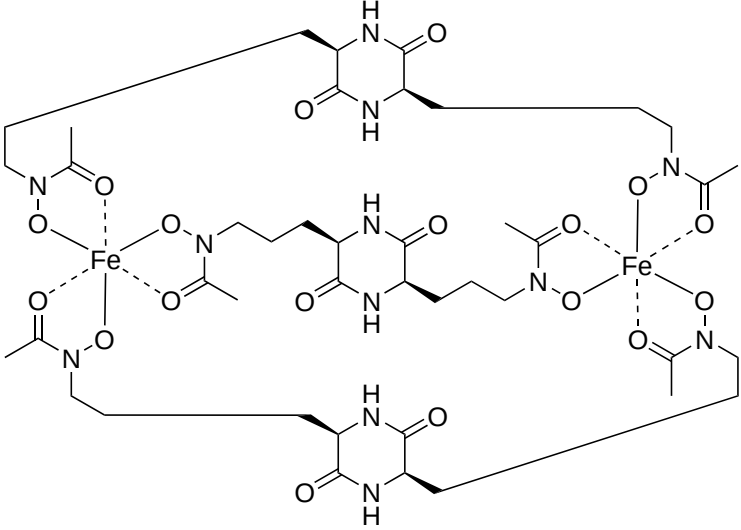

Rhodotorulic acid
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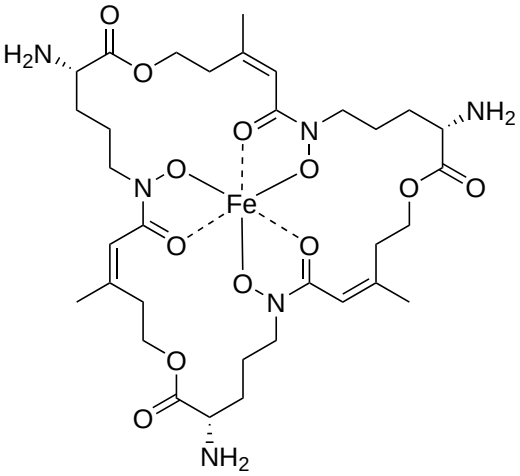

Fusarinine C
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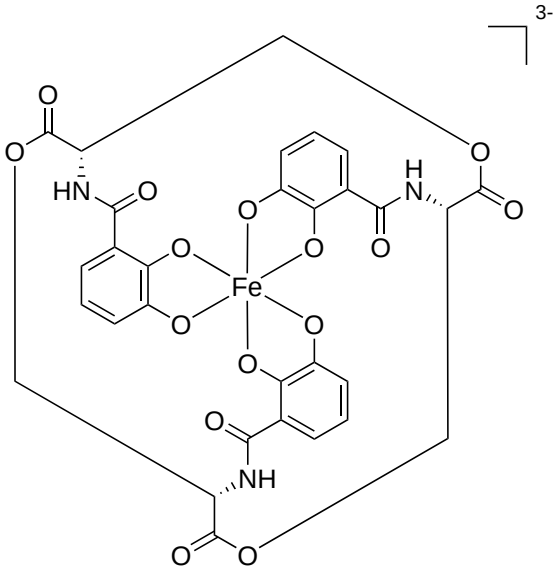

Enterobactin
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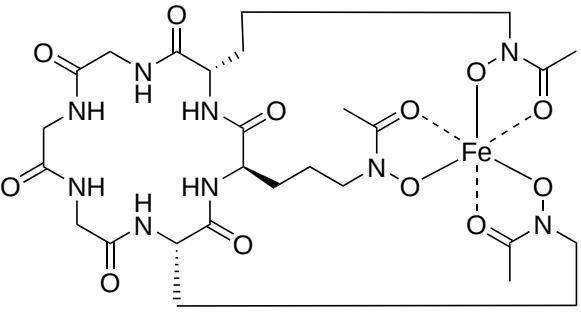

Ferrichrome
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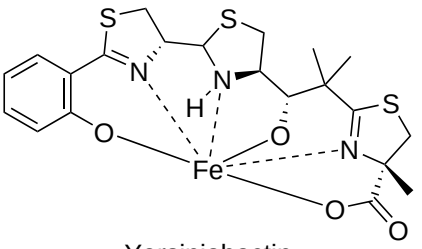

Yersiniabactin
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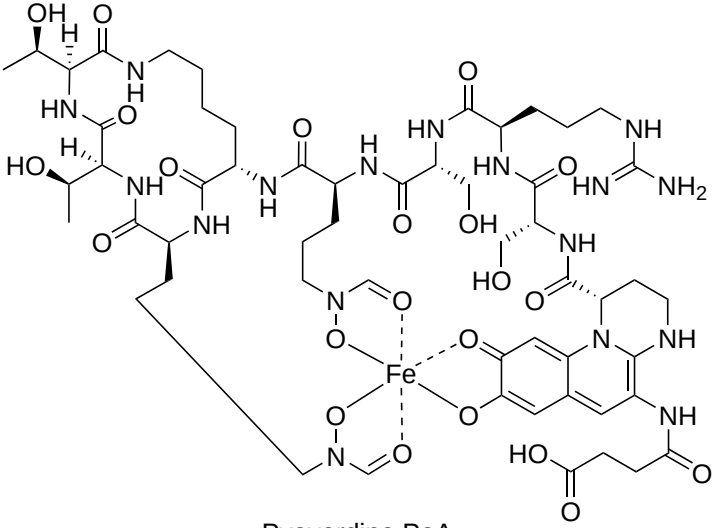

Pyoverdine PaA

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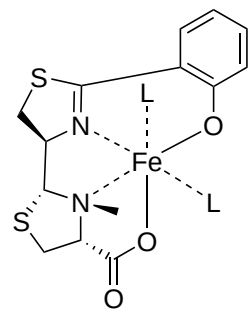

Pyochelin

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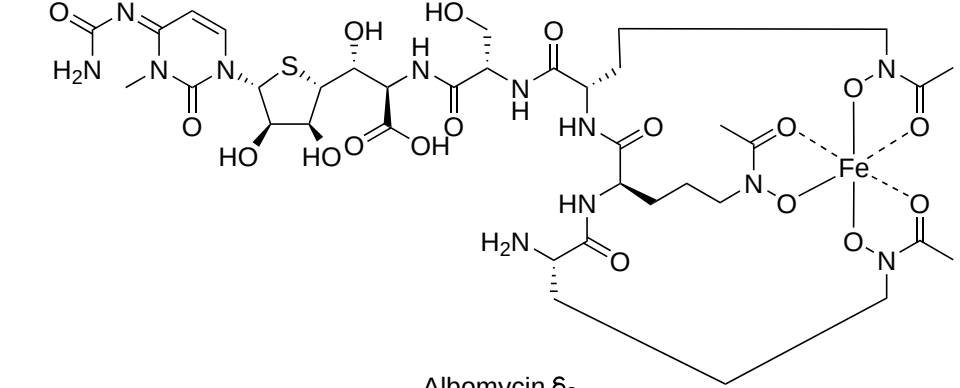

Albomycin δ_2
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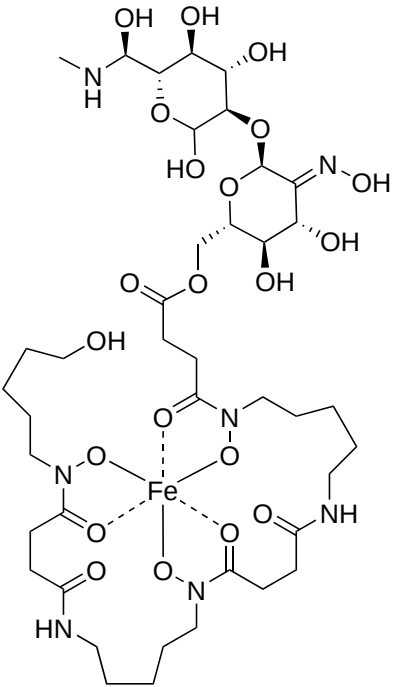

Salmycin A
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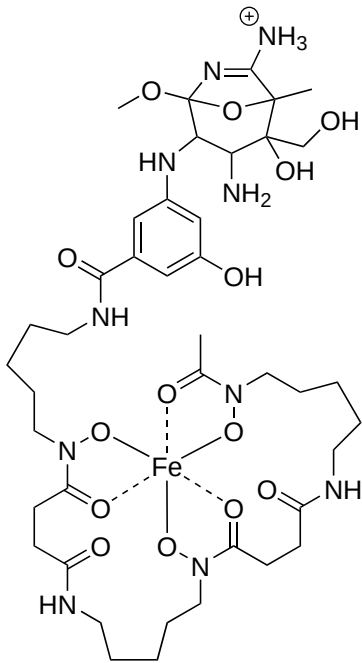

Ferrimycin A1
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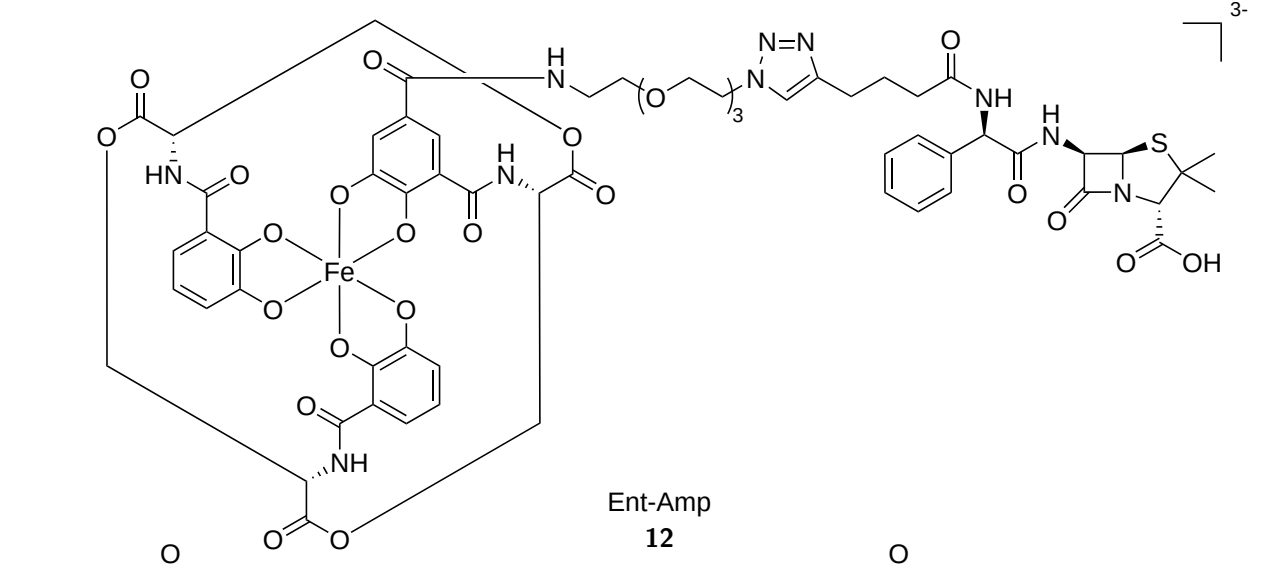

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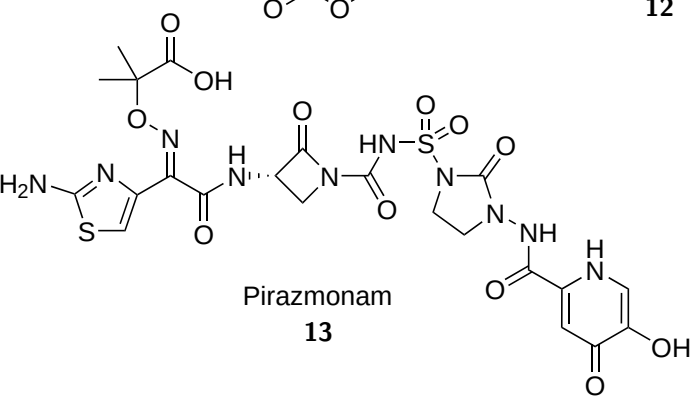

Pirazmonam
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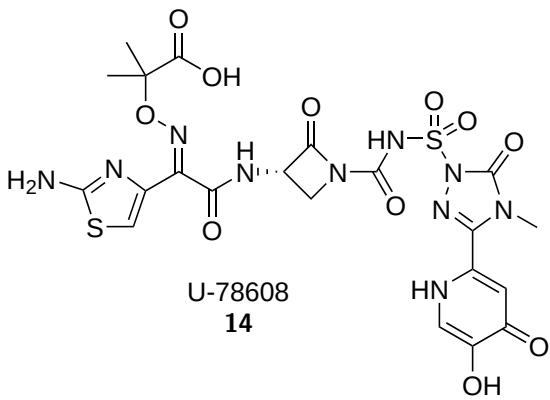

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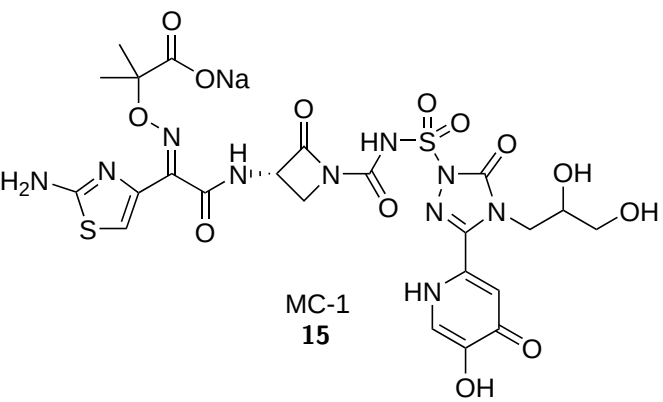

MC-1
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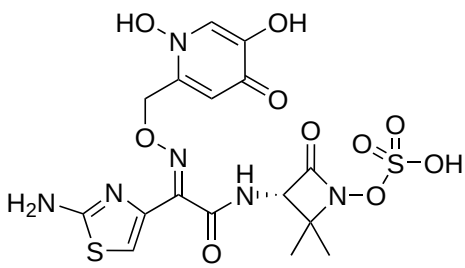

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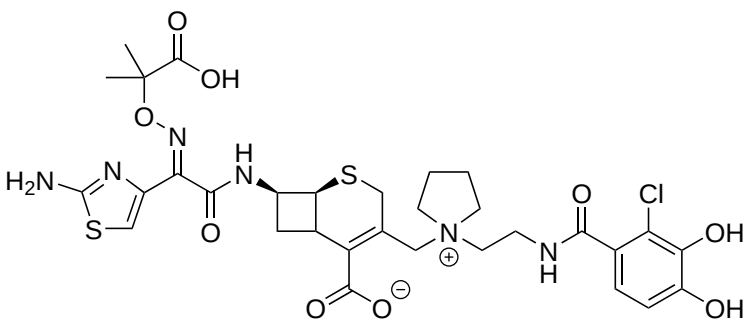

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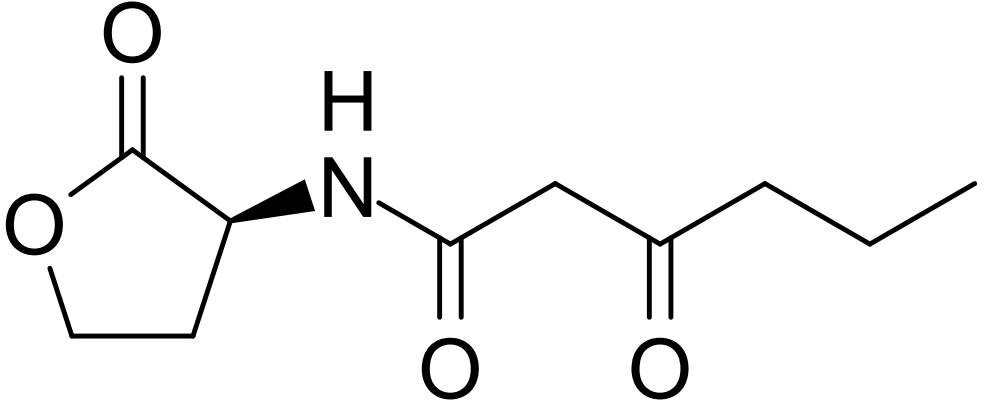
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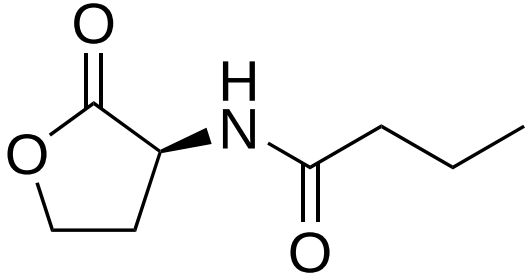

C_4-HSL

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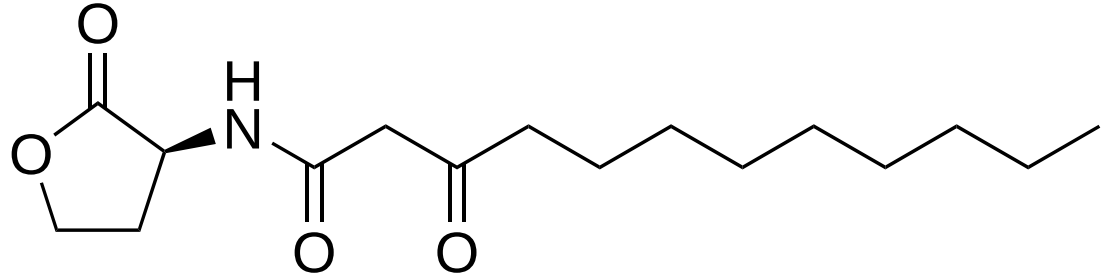

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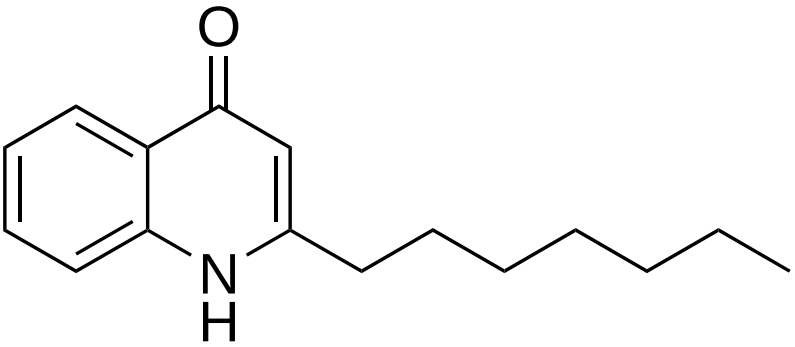

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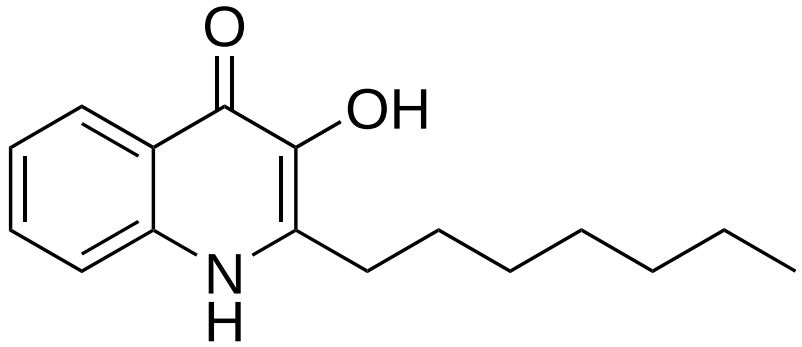

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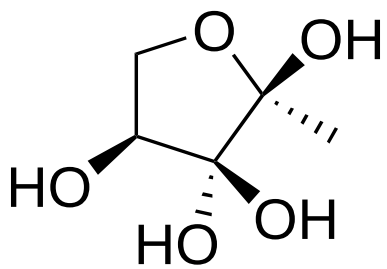

AI-2

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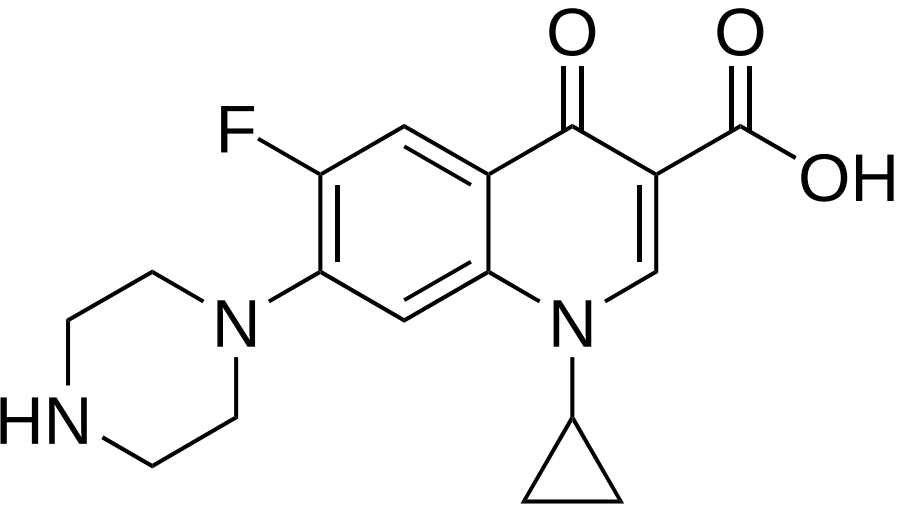

Ciprofloxacin

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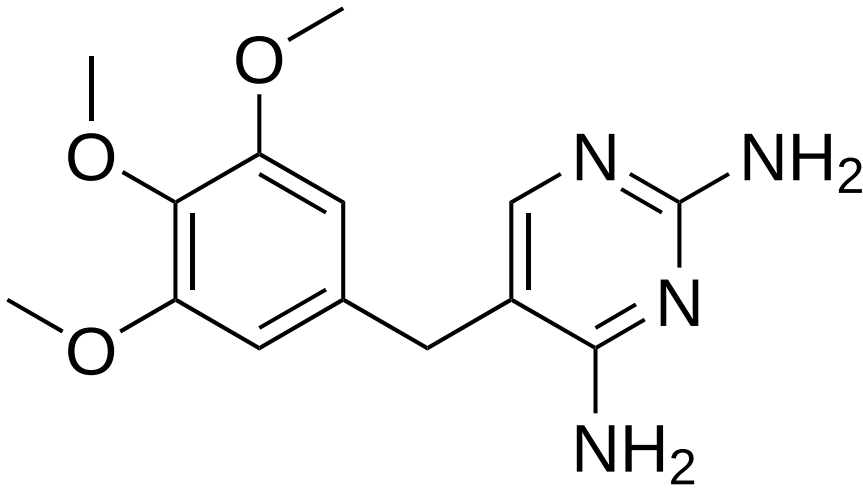

Trimethoprim

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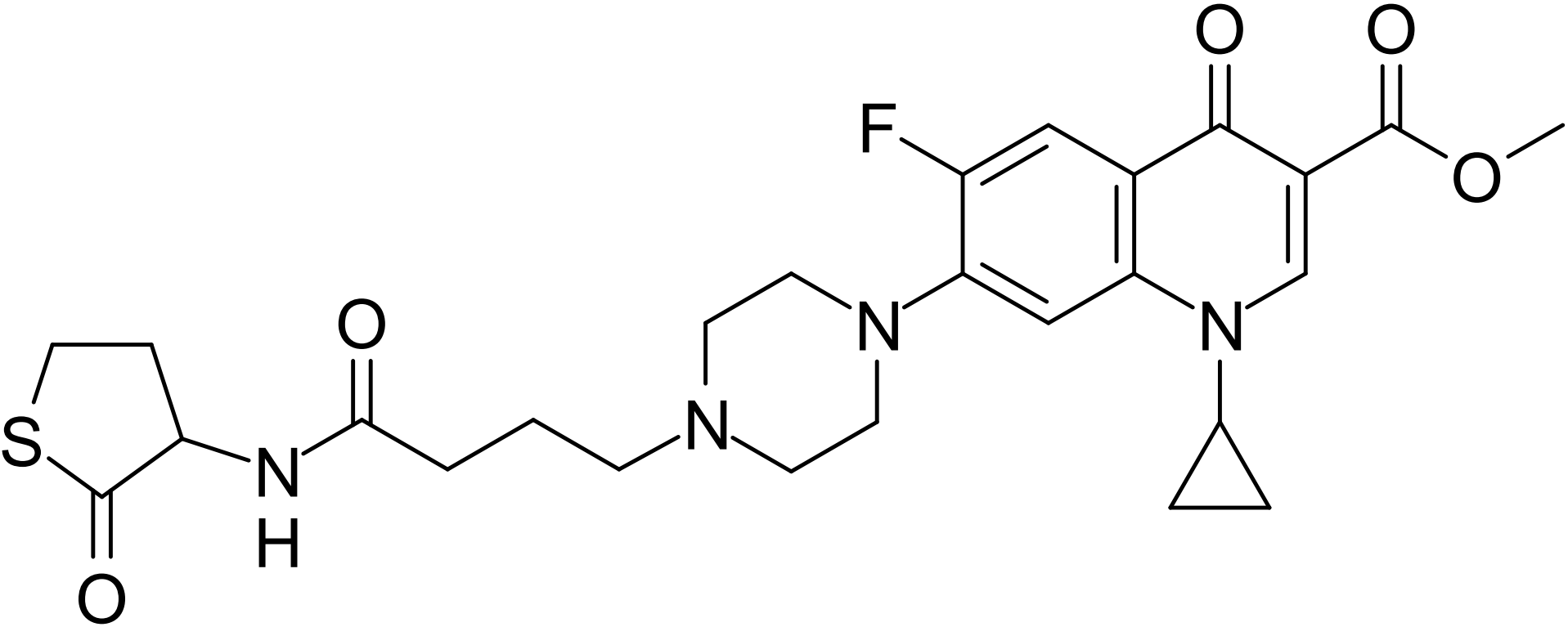
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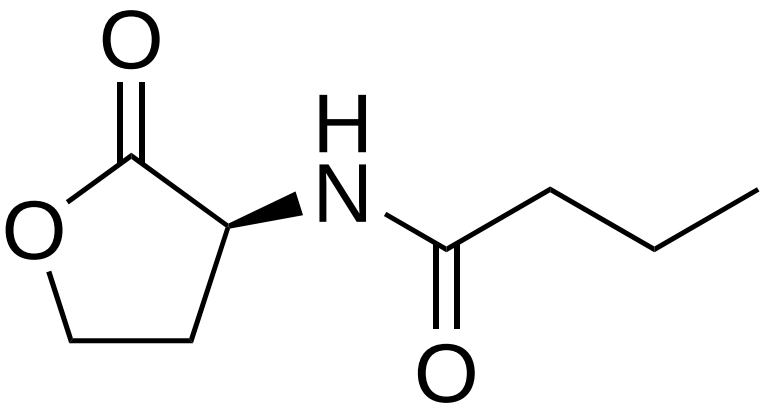

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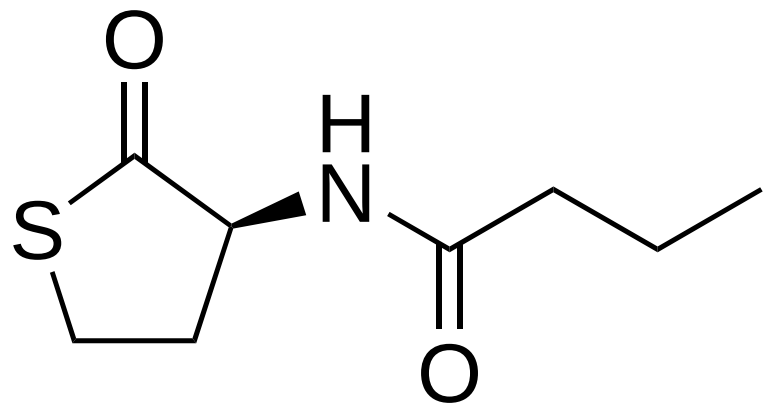

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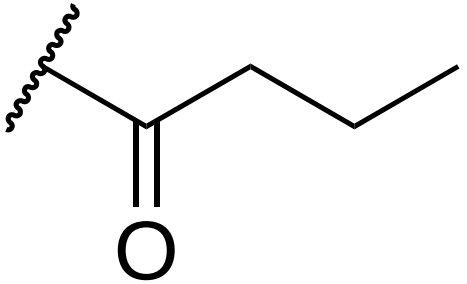
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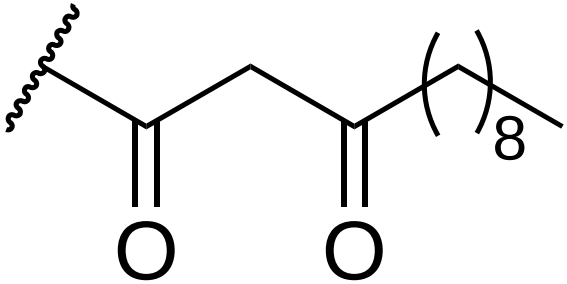
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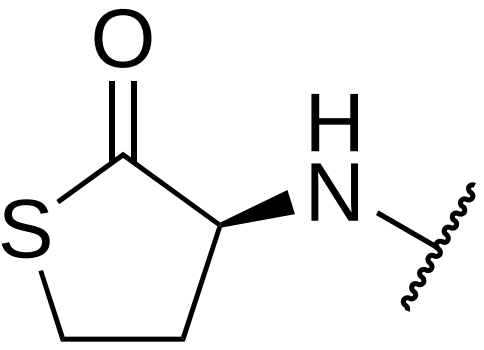
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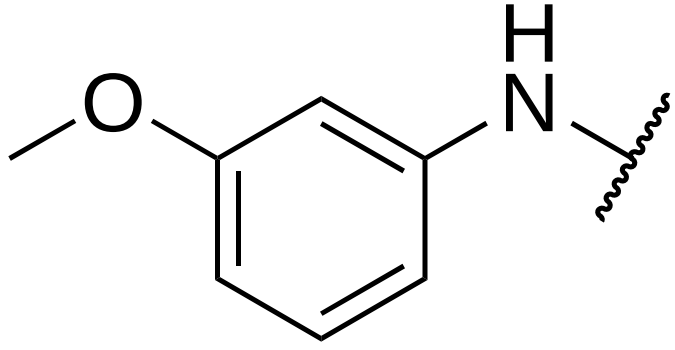
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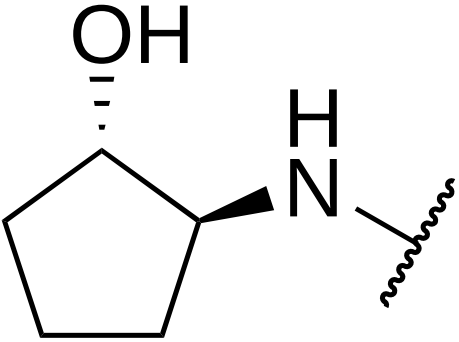
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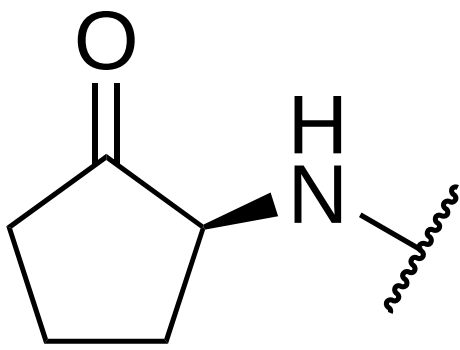
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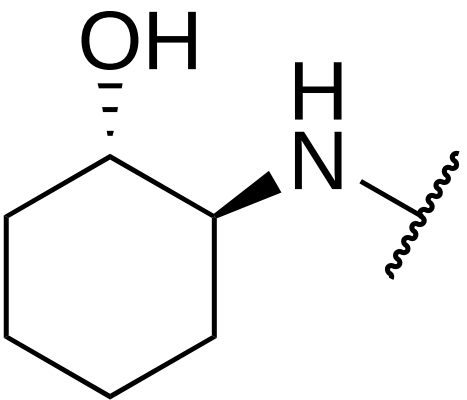
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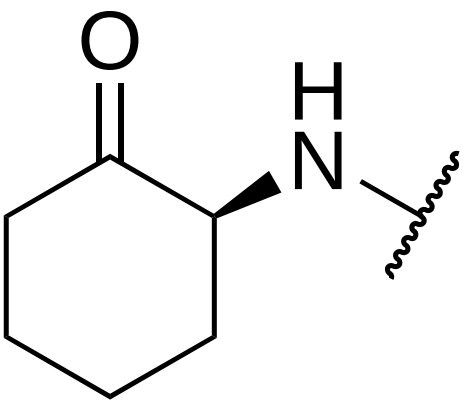
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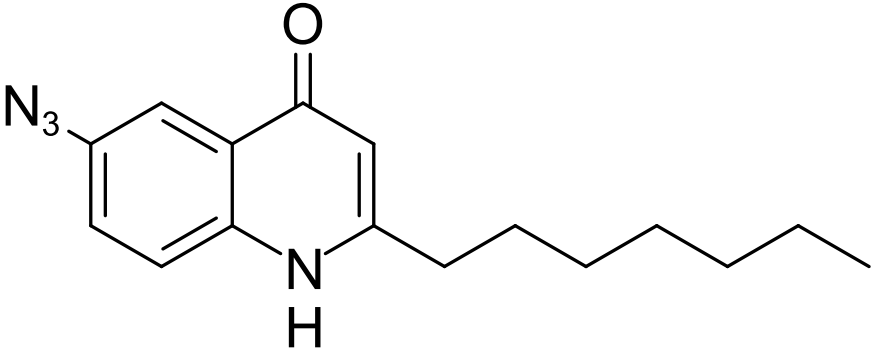
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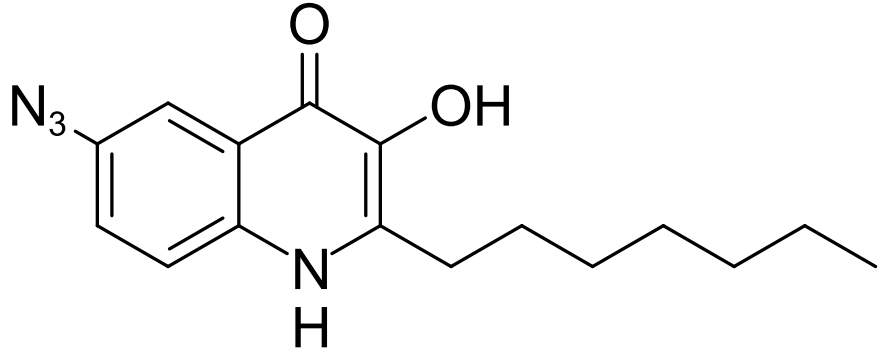
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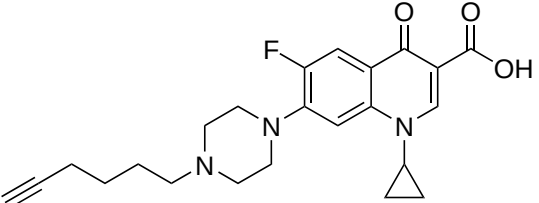

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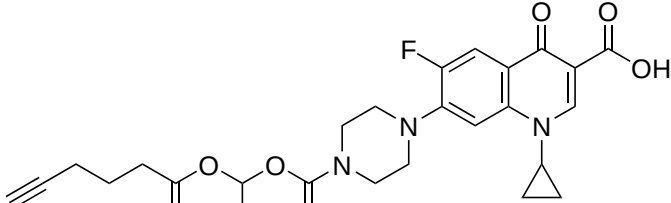

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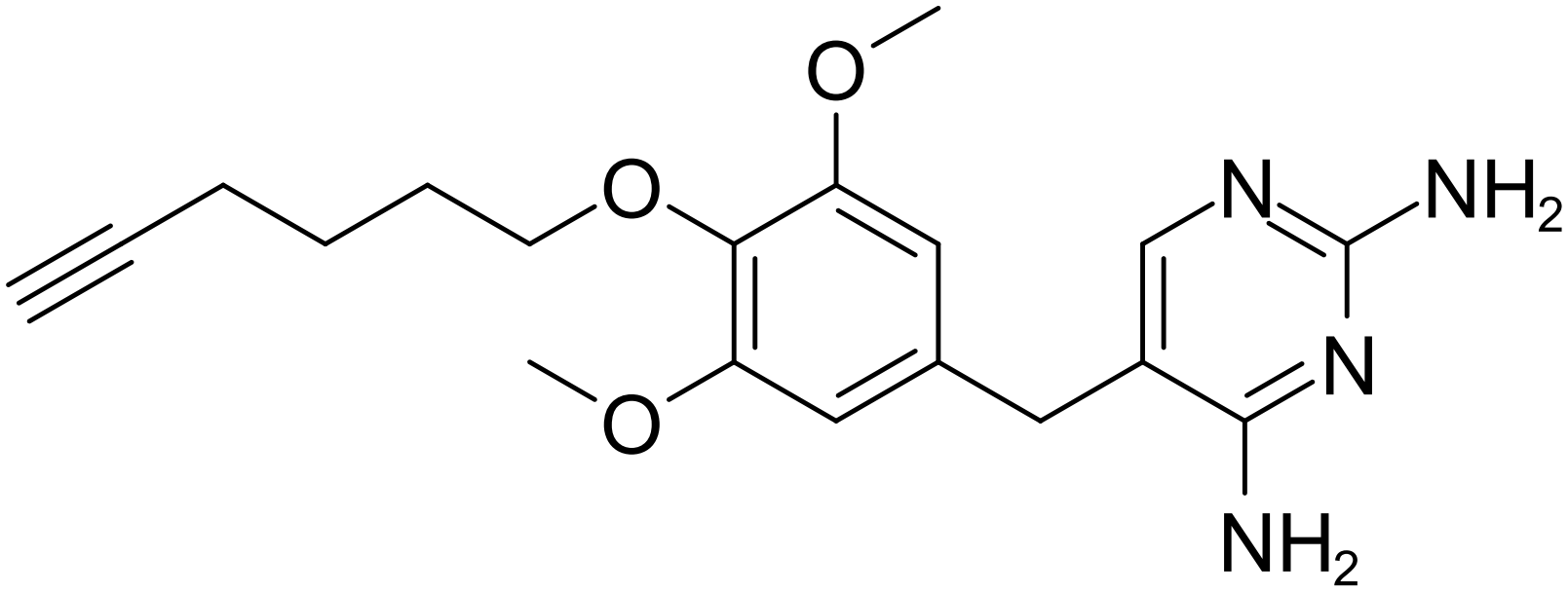
R = Me **89**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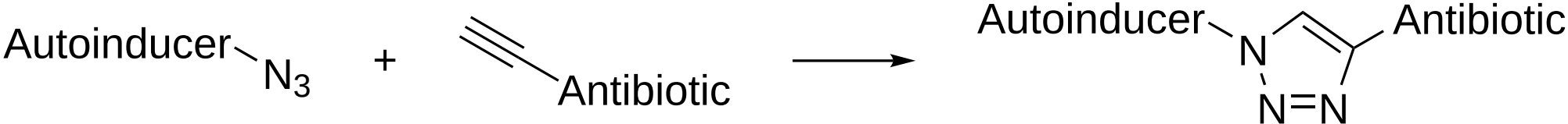
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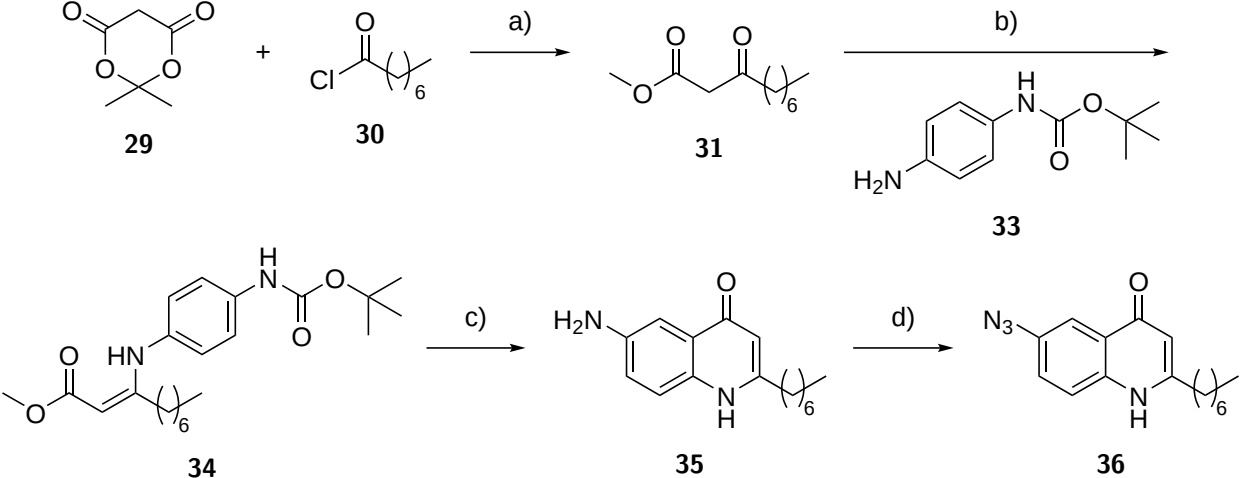
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b)
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d)
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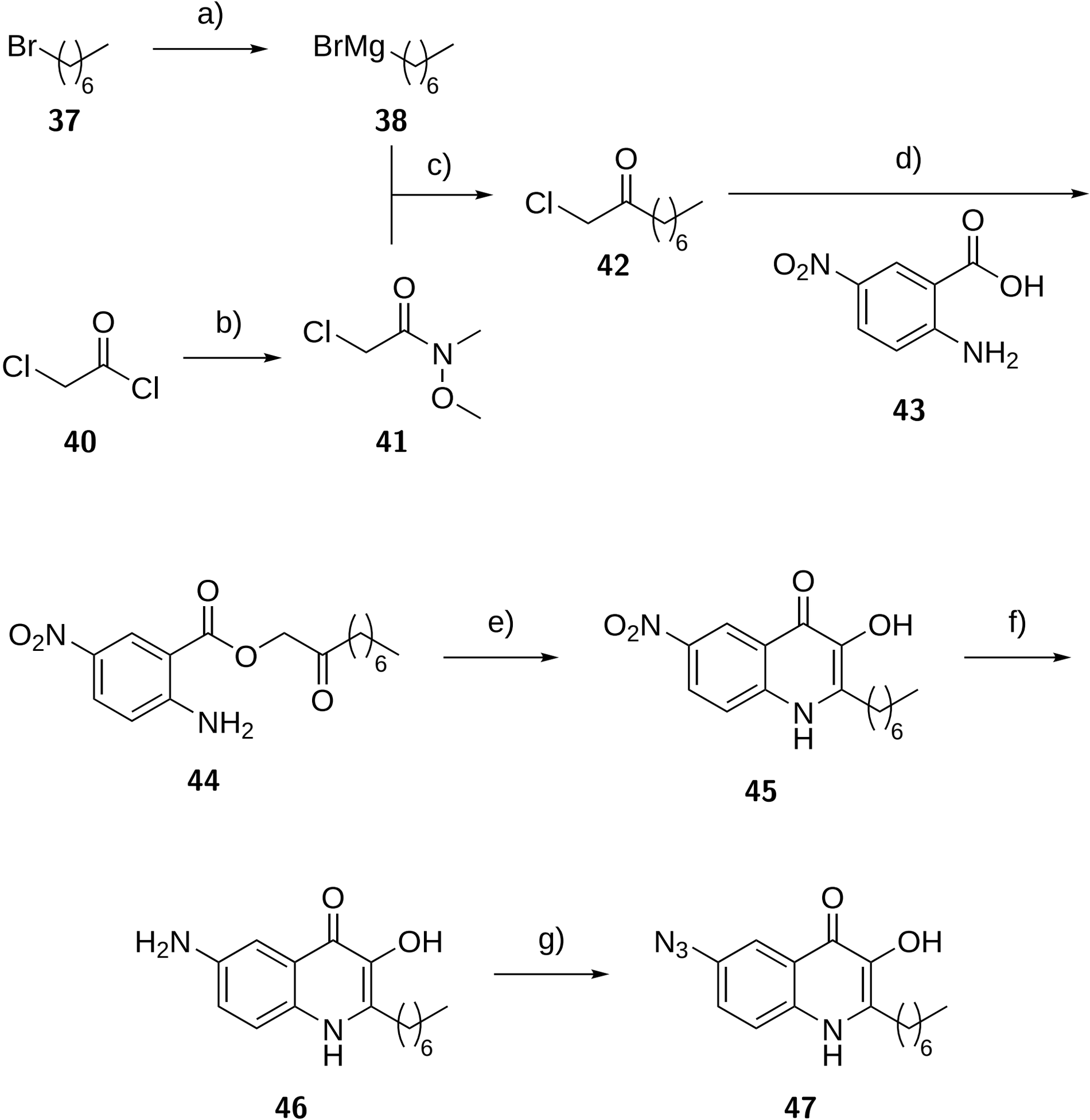
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BrMg
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c)
O
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d)
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NH_2
43
O
Cl
Cl
40
b)
O
Cl
N
O
41
O
O_2N
O
6
O
NH_2
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e)
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f)
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g)
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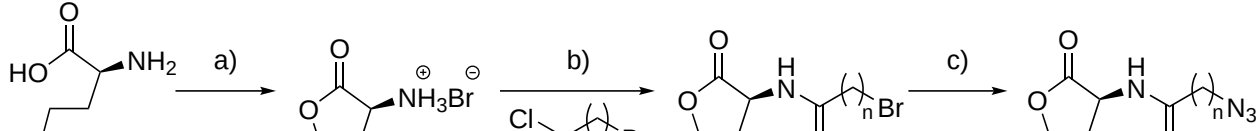
48 **50** **51** **53**



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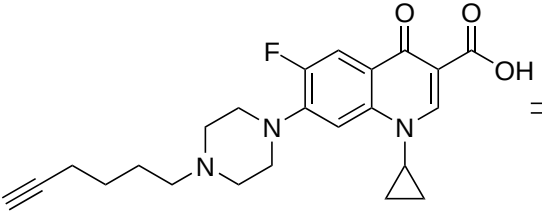

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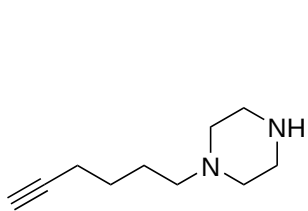

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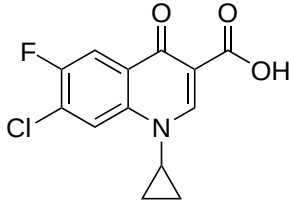

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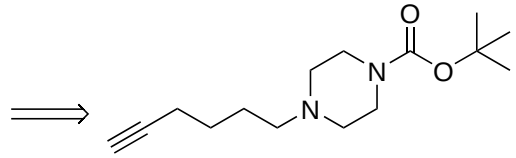

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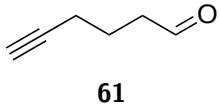

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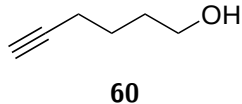

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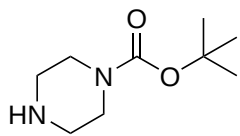

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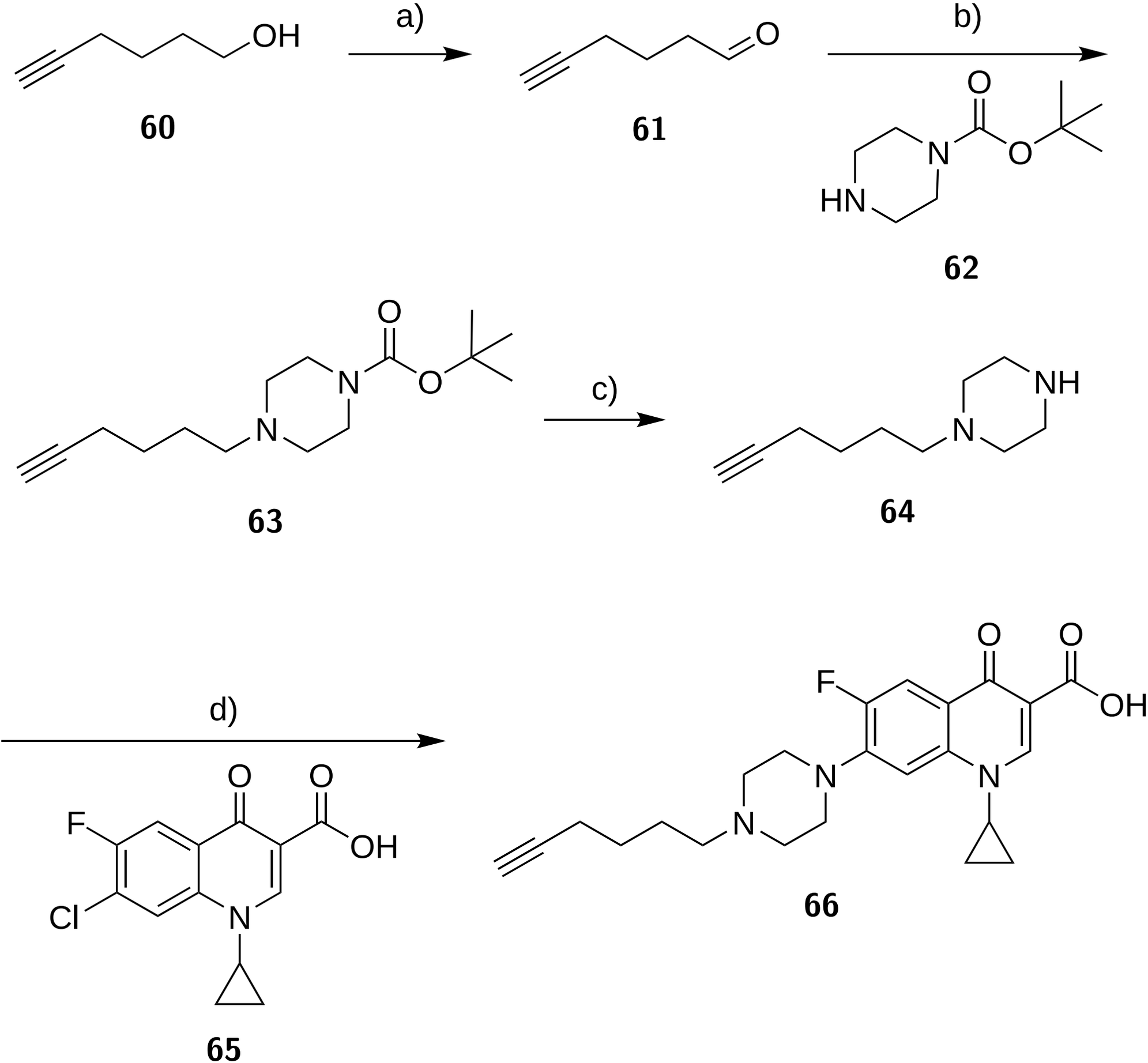
OH
a)
O
b)
O
N
O
HN
60
61
62
O
N
O
N
c)
NH
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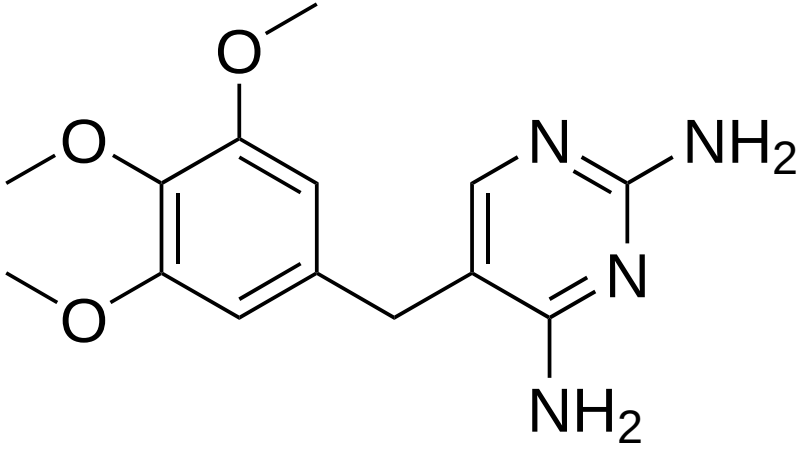
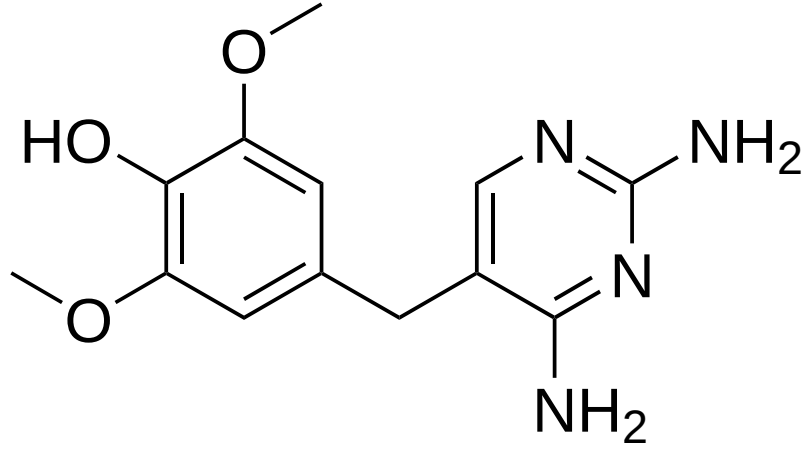
N
N
65
66



25

a)



67

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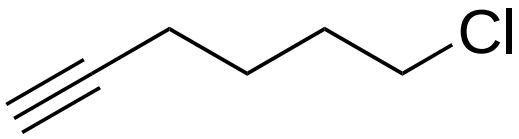

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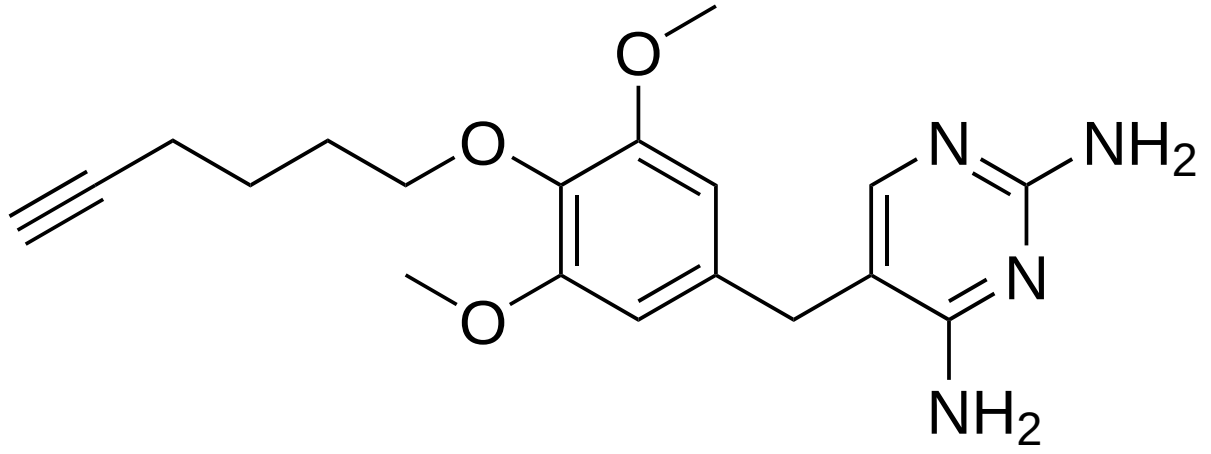

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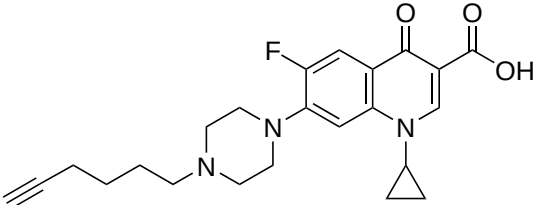

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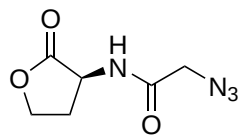
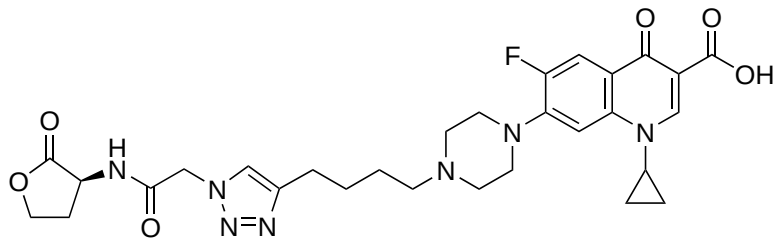


53

a)



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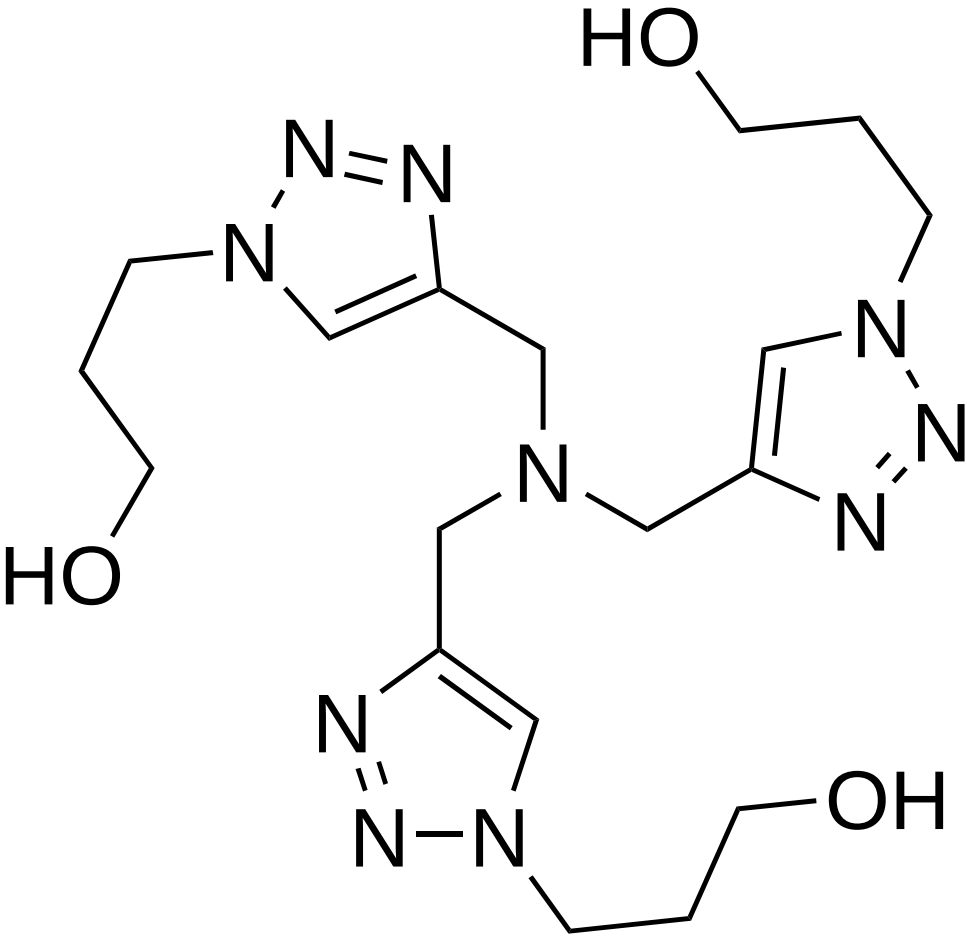
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HO
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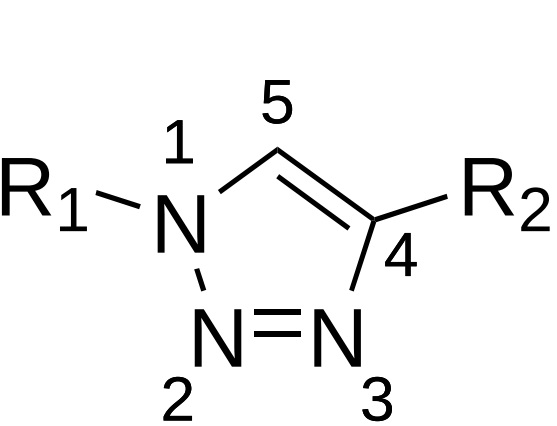
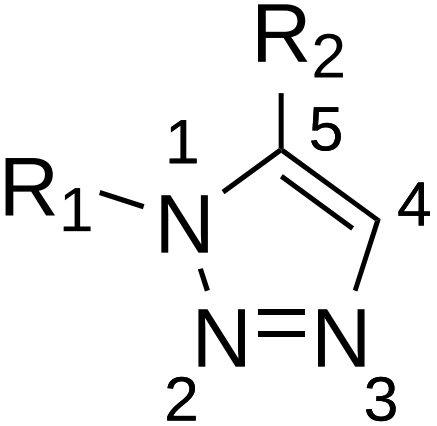
OH


R1
1
5
R2
N
4
N=N
2
3

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N
N=N
2
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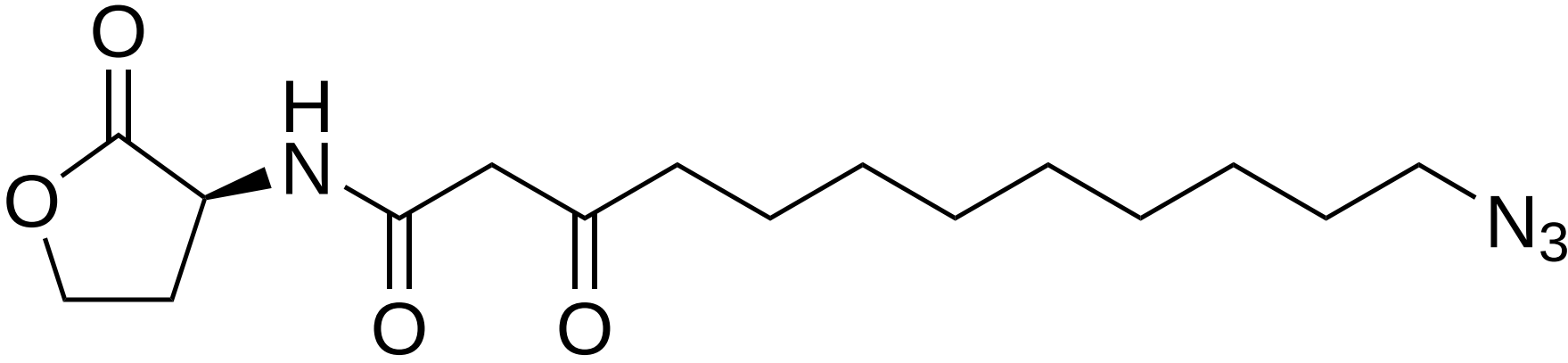

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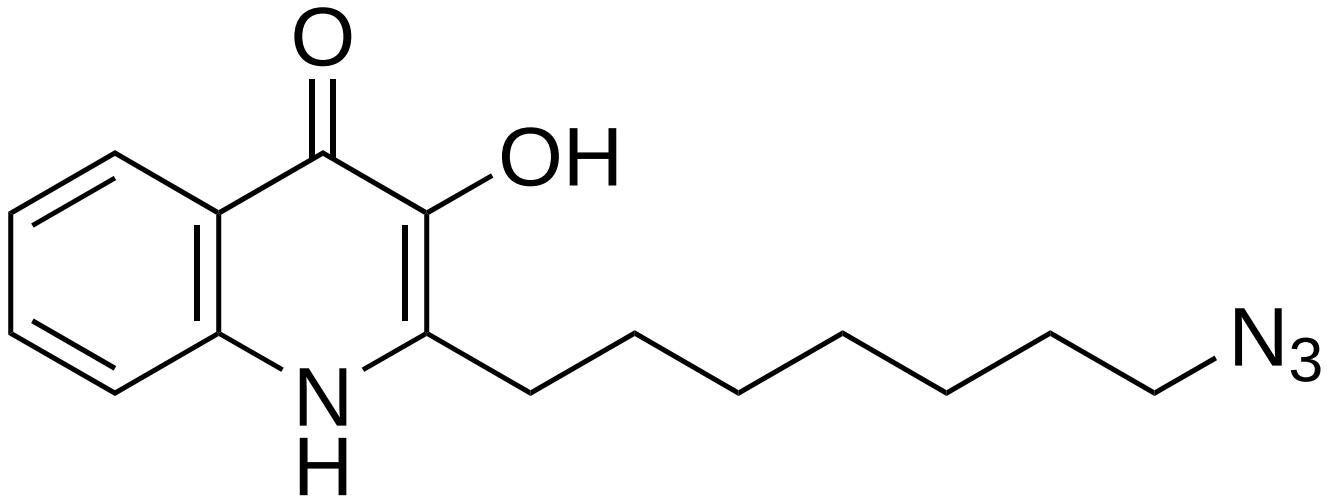

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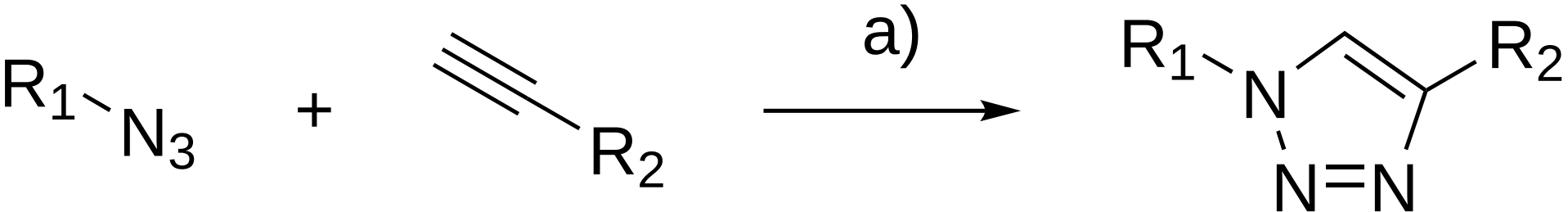
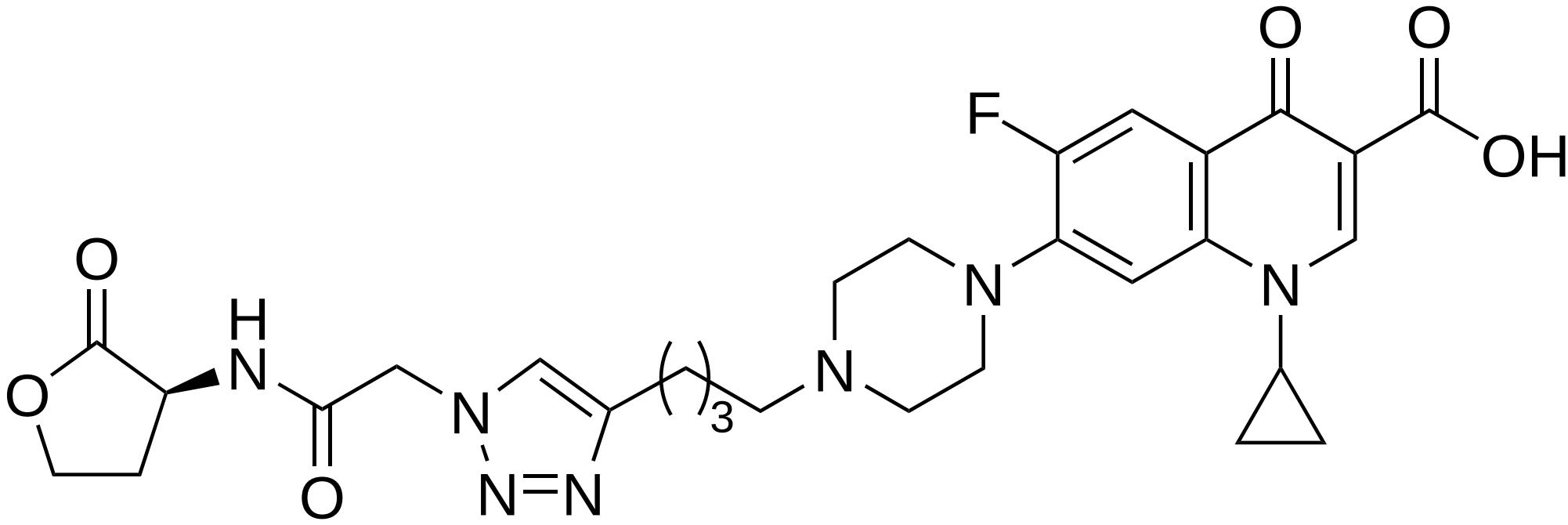

R1
N3
+
R2
a)
R1
N
R2
N=N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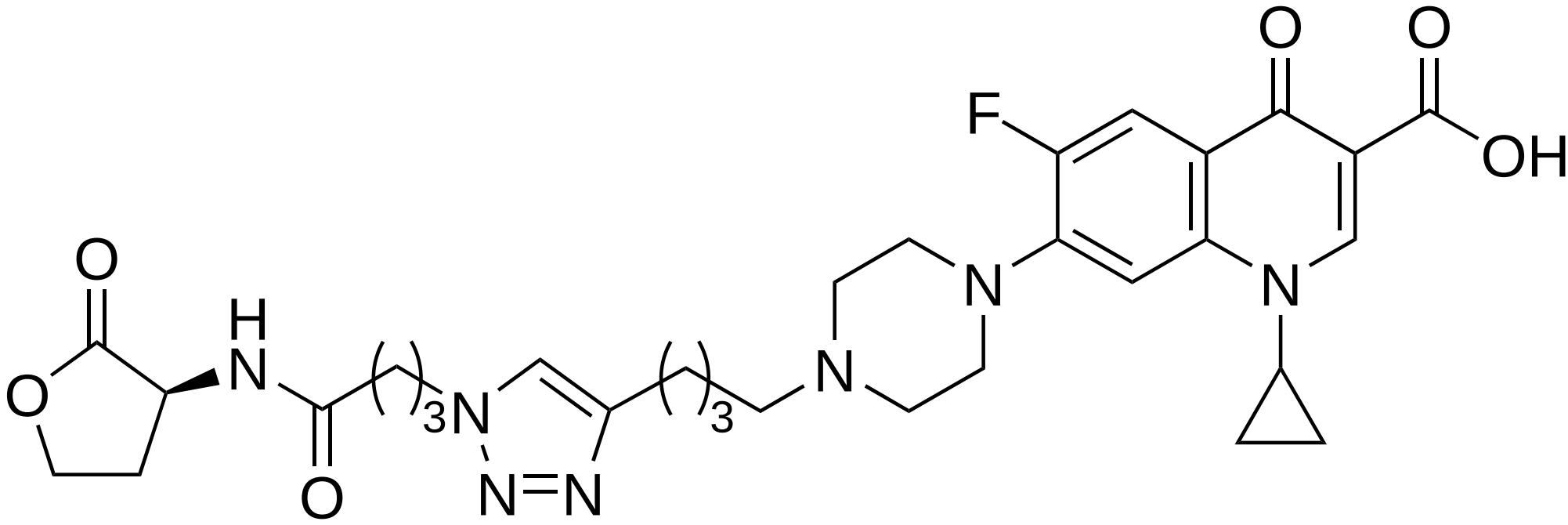

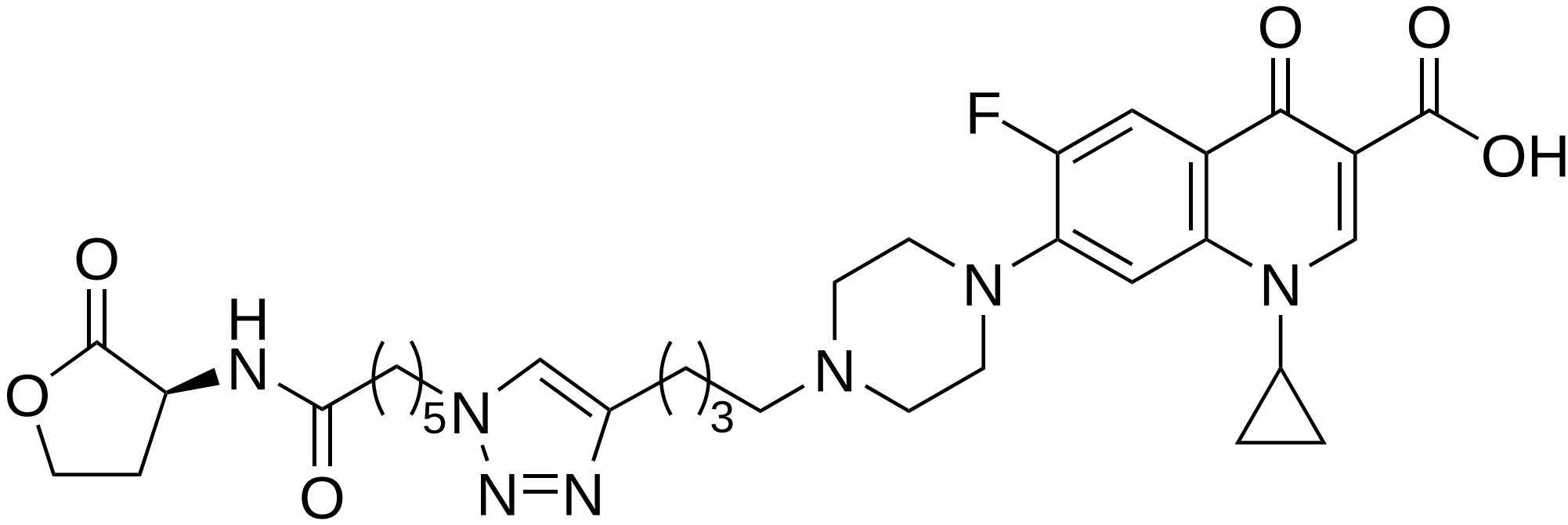
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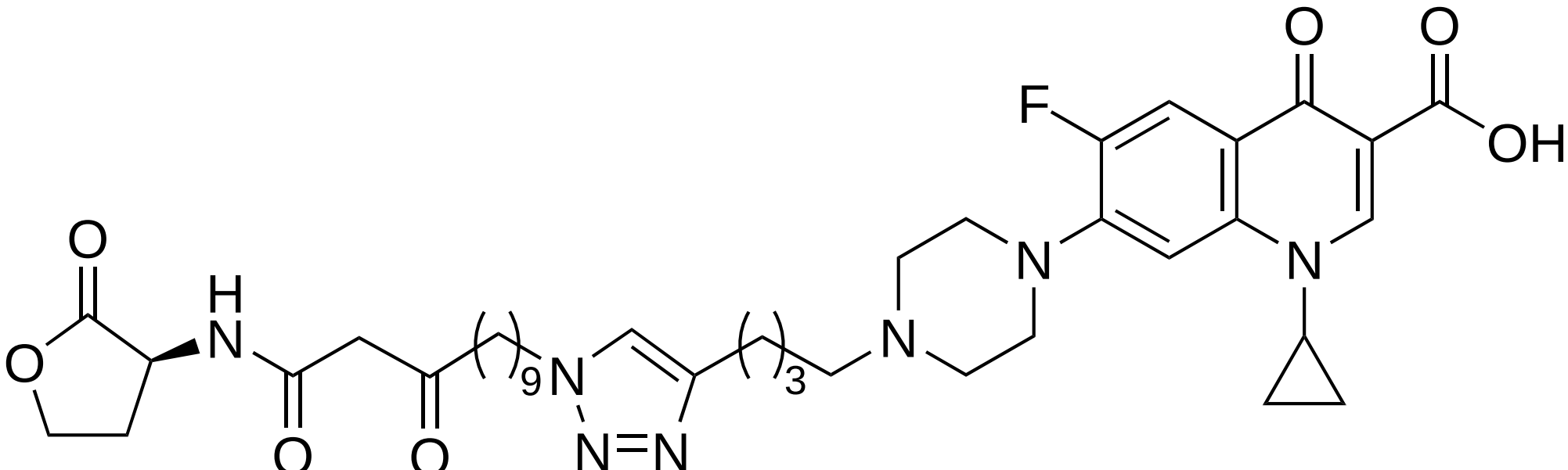

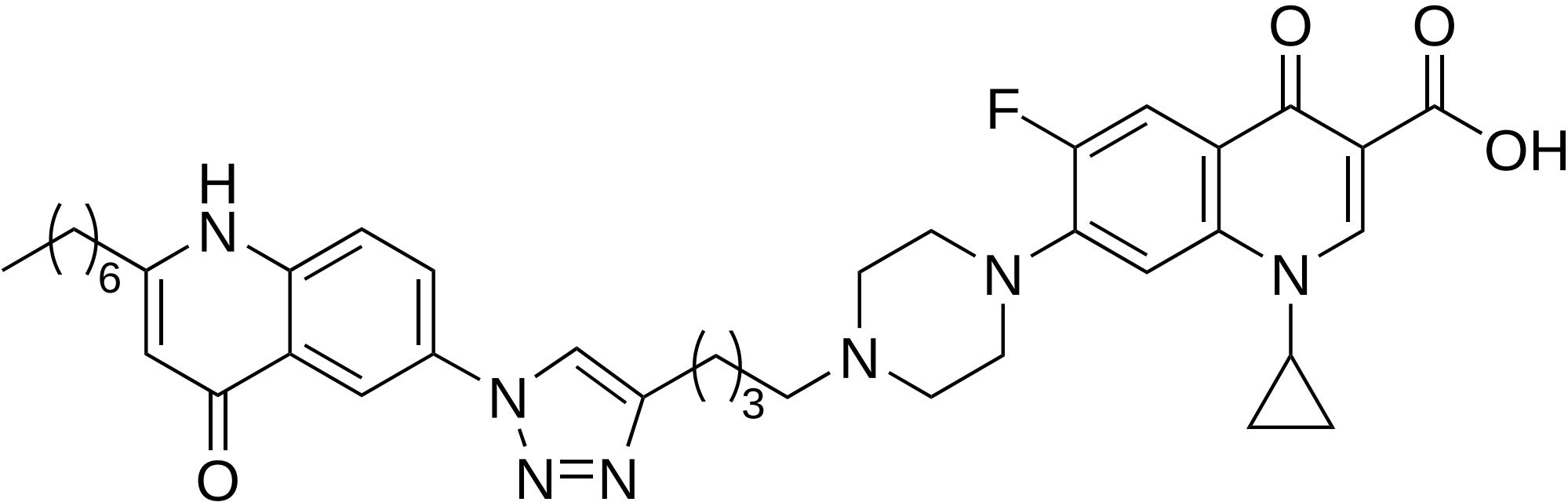
H
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OH
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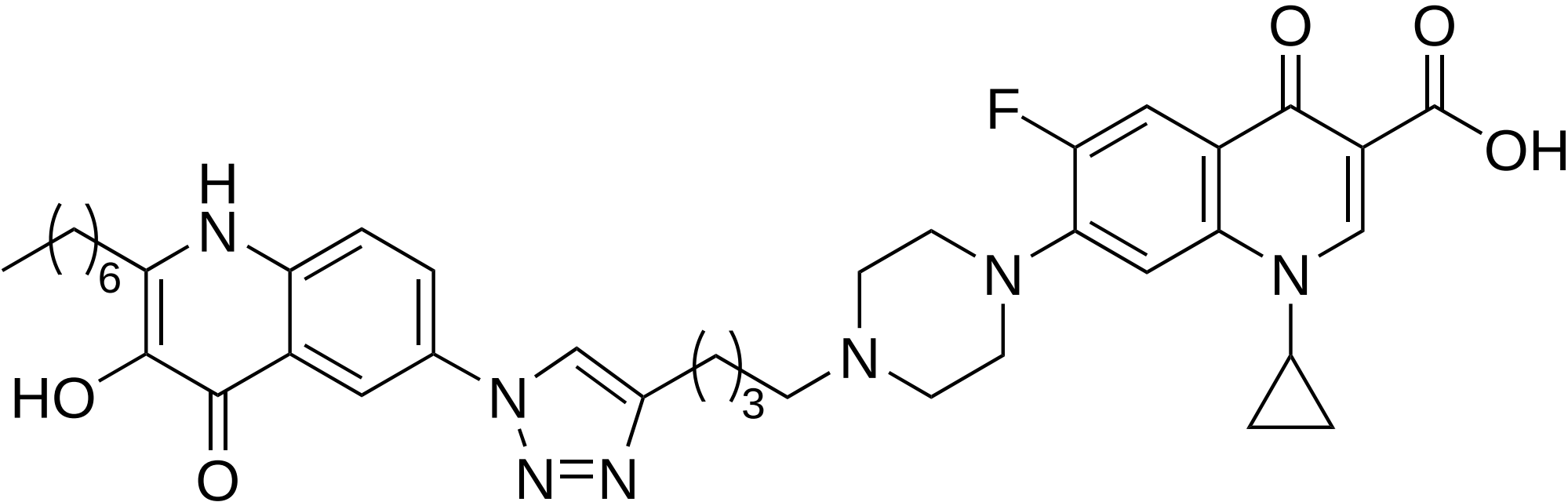

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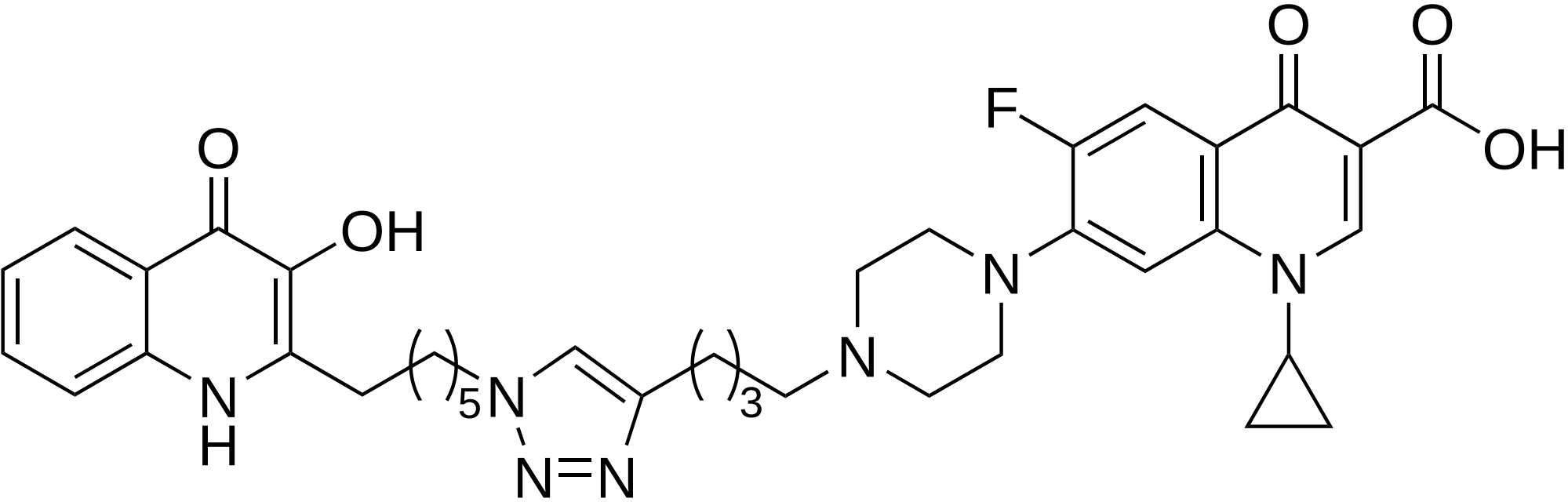
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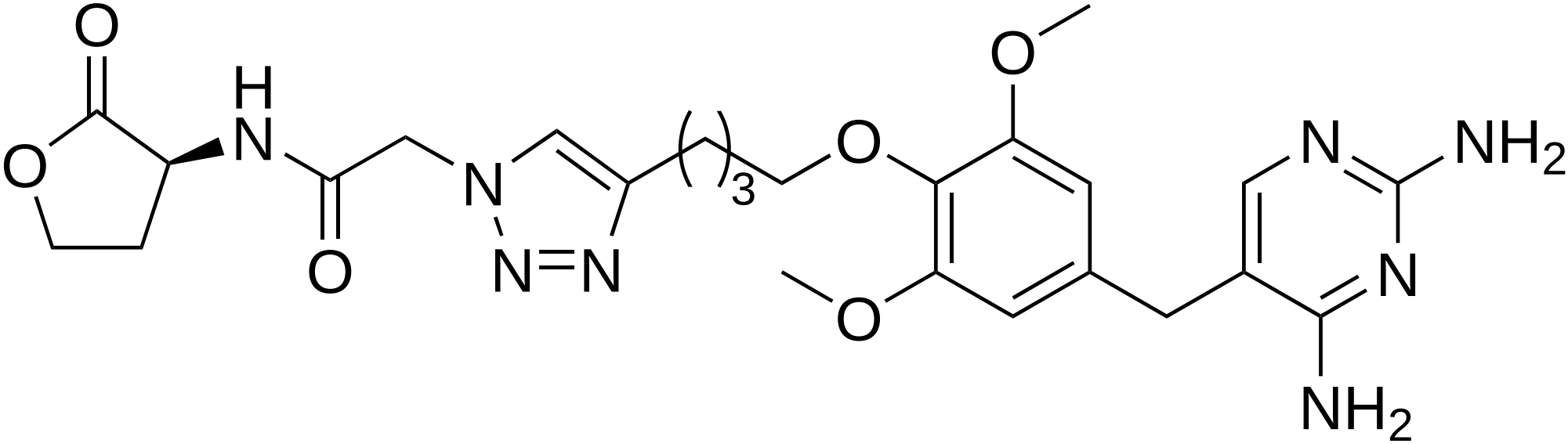

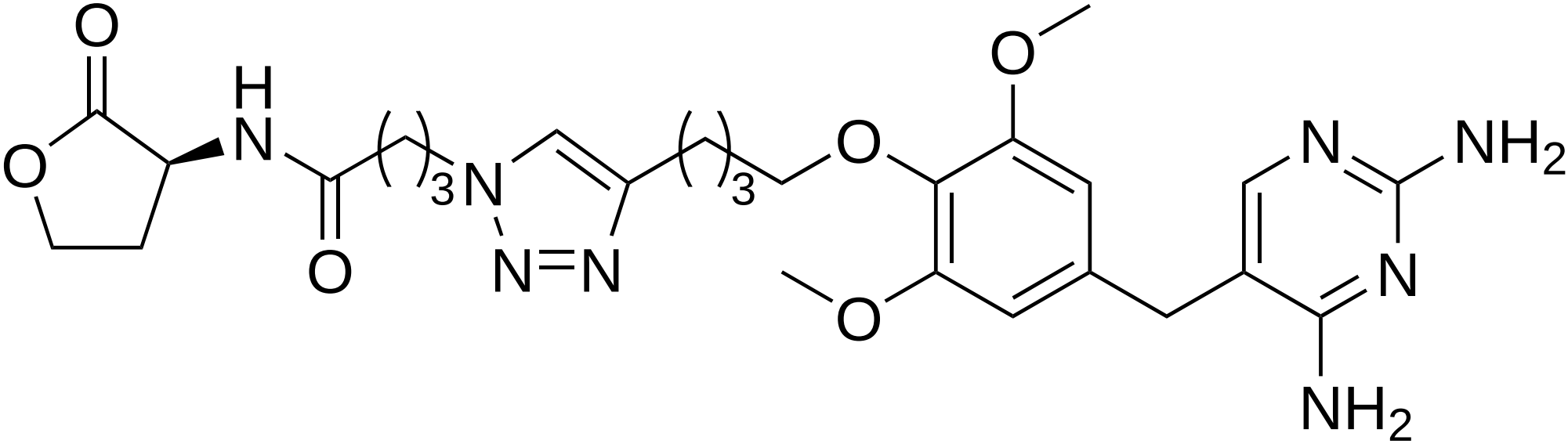

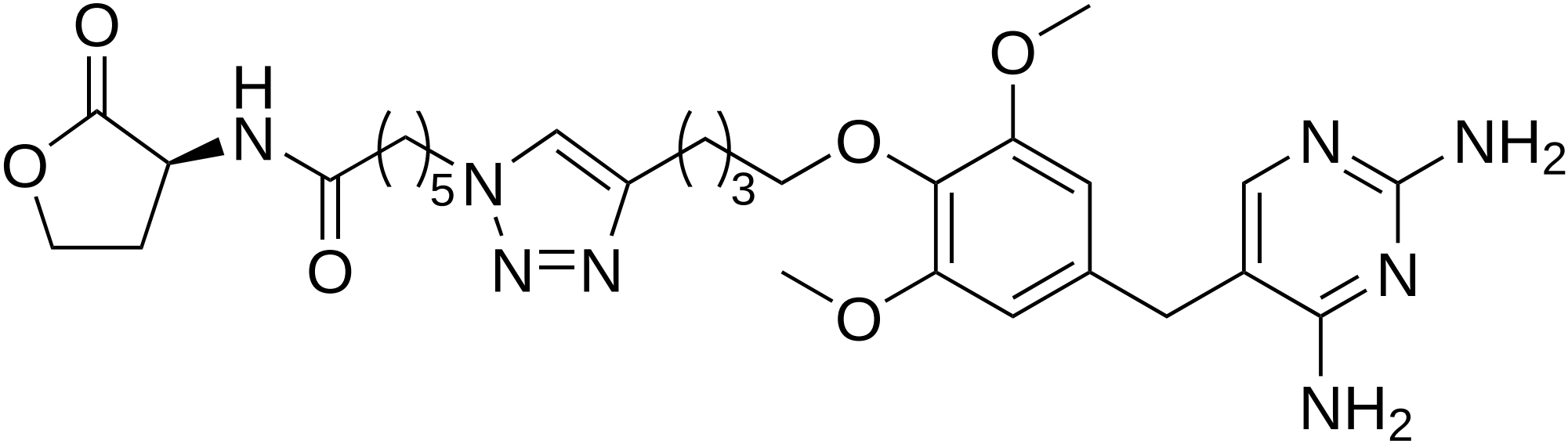

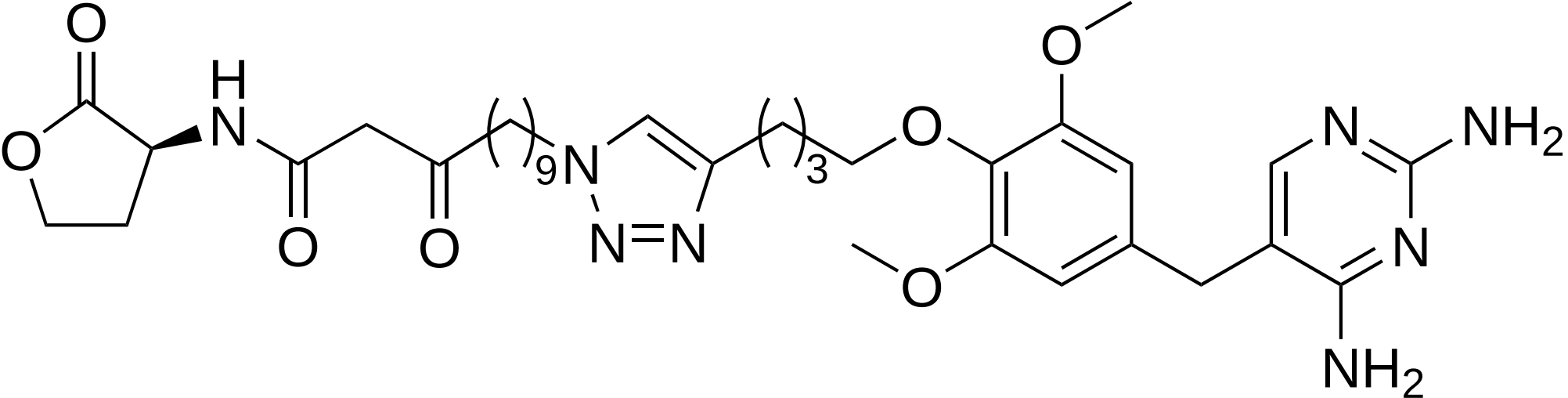

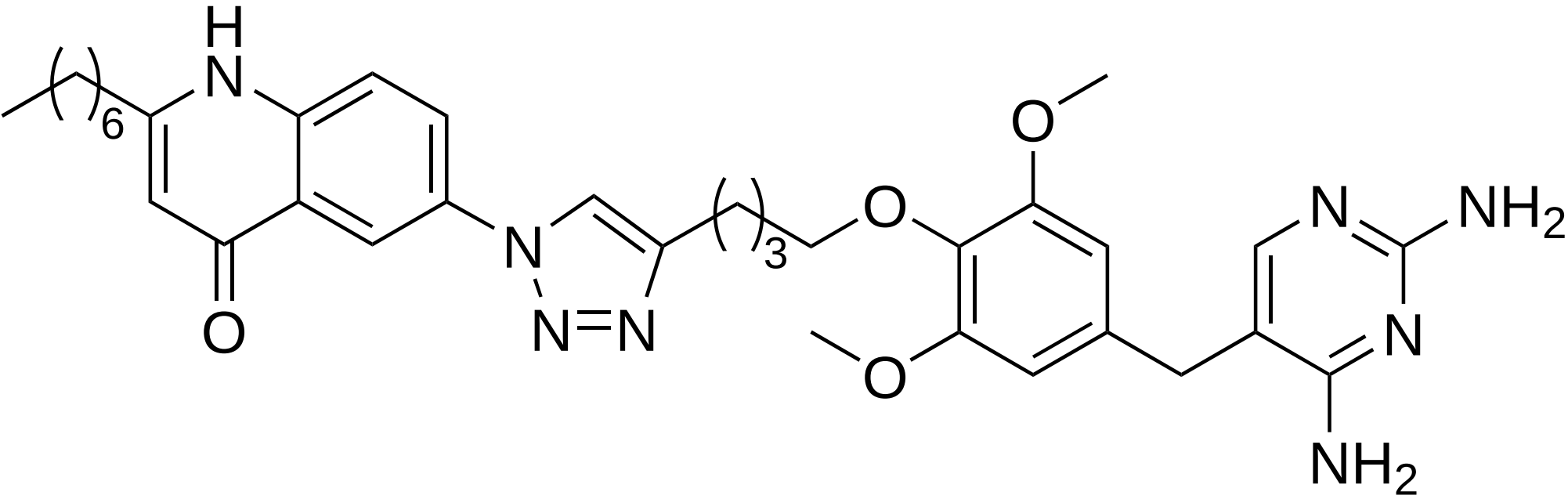

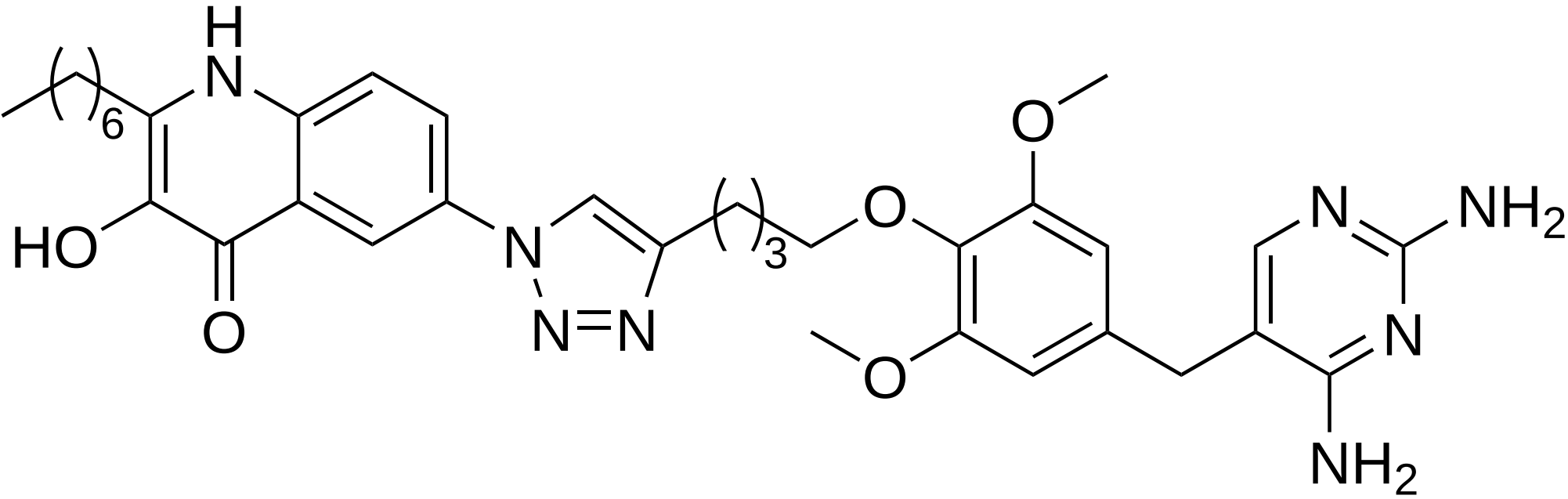

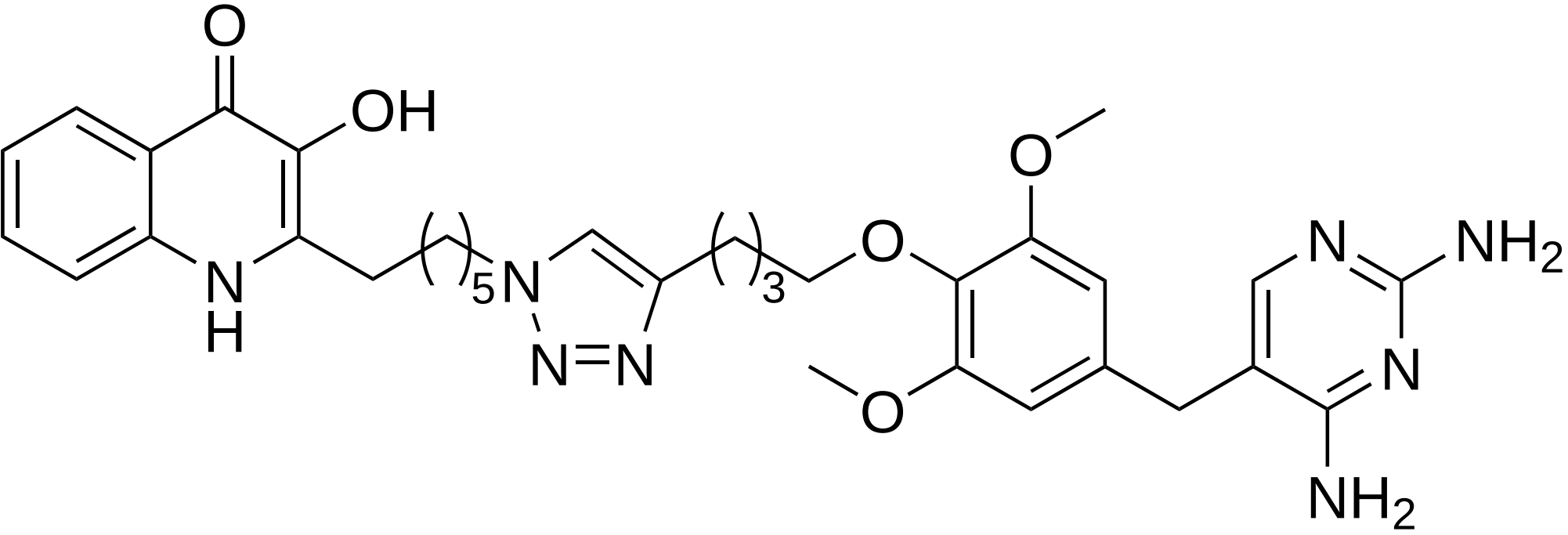
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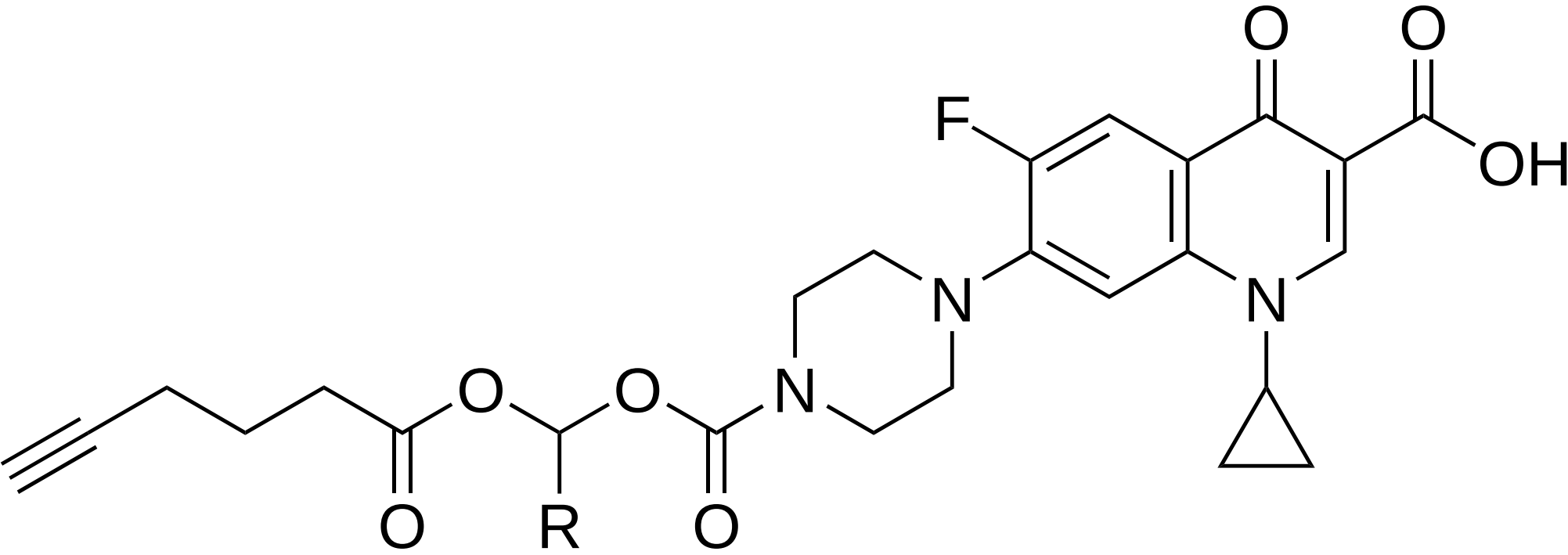
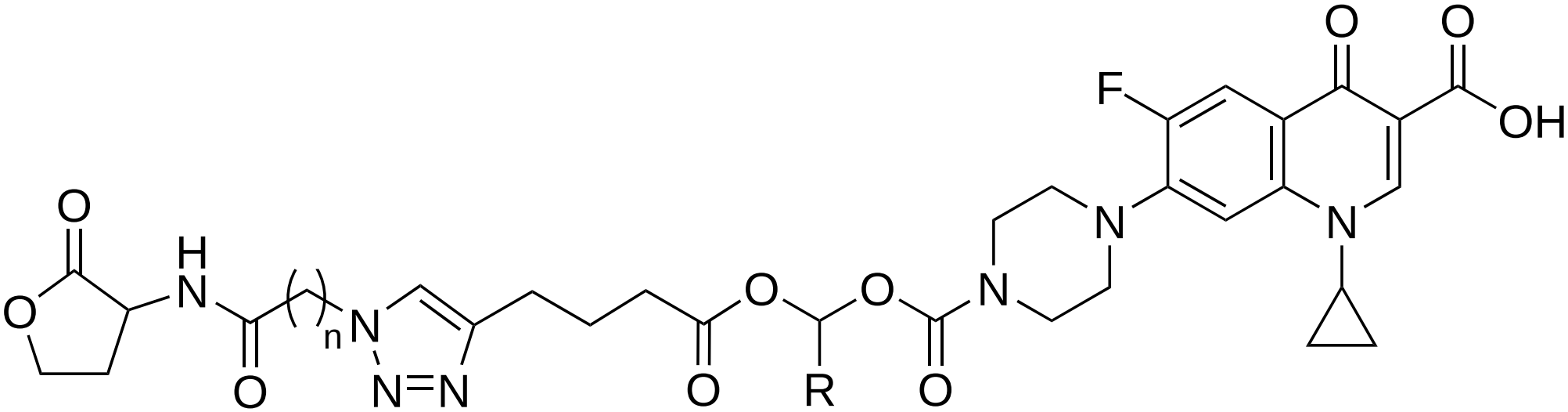
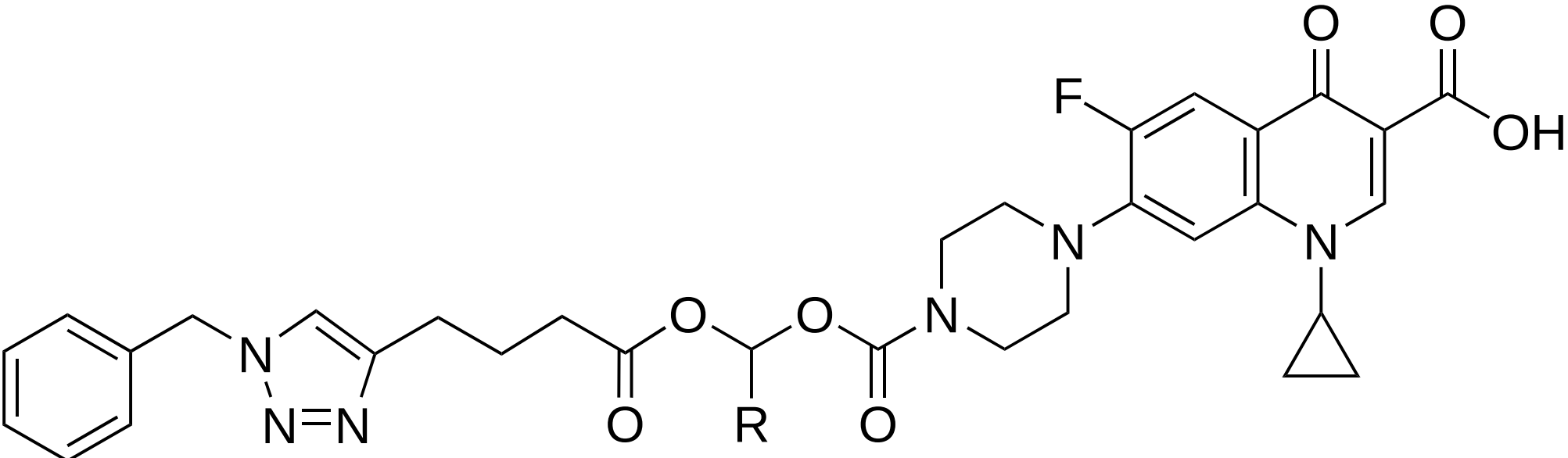


R = H **88**

R = Me **89**

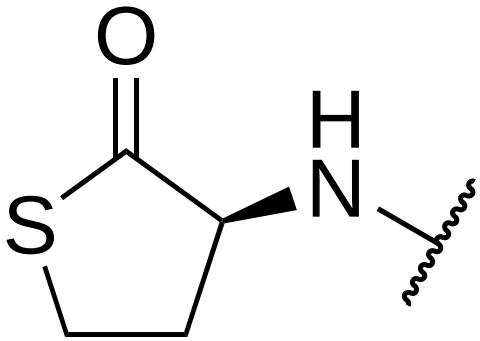


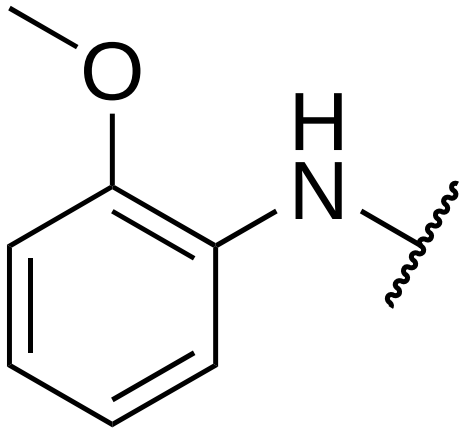
n = 1, R = H **90**
n = 3, R = H **91**
n = 5, R = H **92**
n = 1, R = Me **93**
n = 3, R = Me **94**
n = 5, R = Me **95**

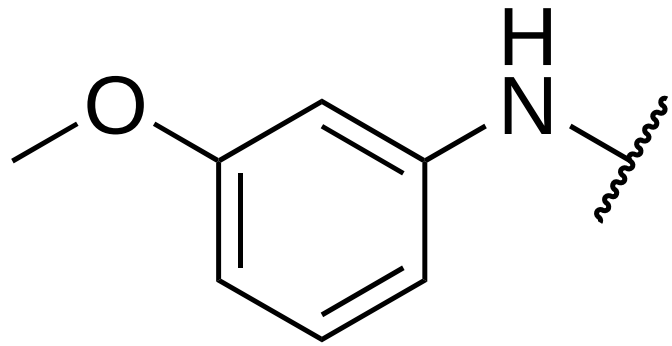


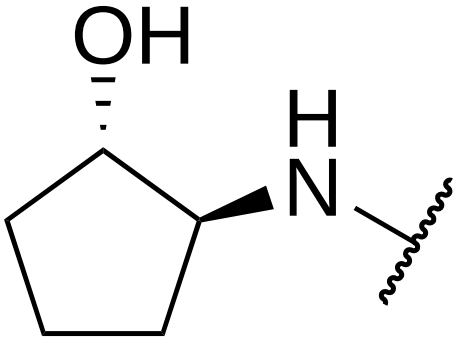
R = H **96**

R = Me **97**

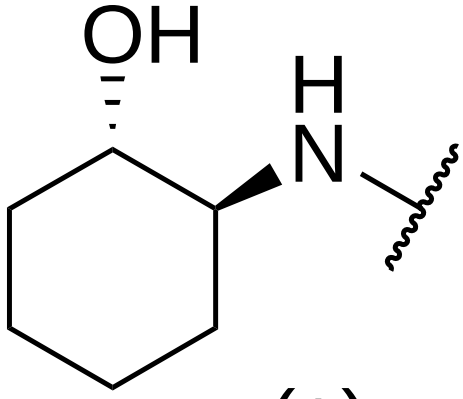








and enantiomer



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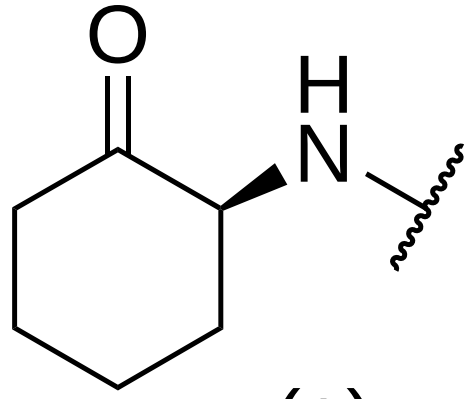
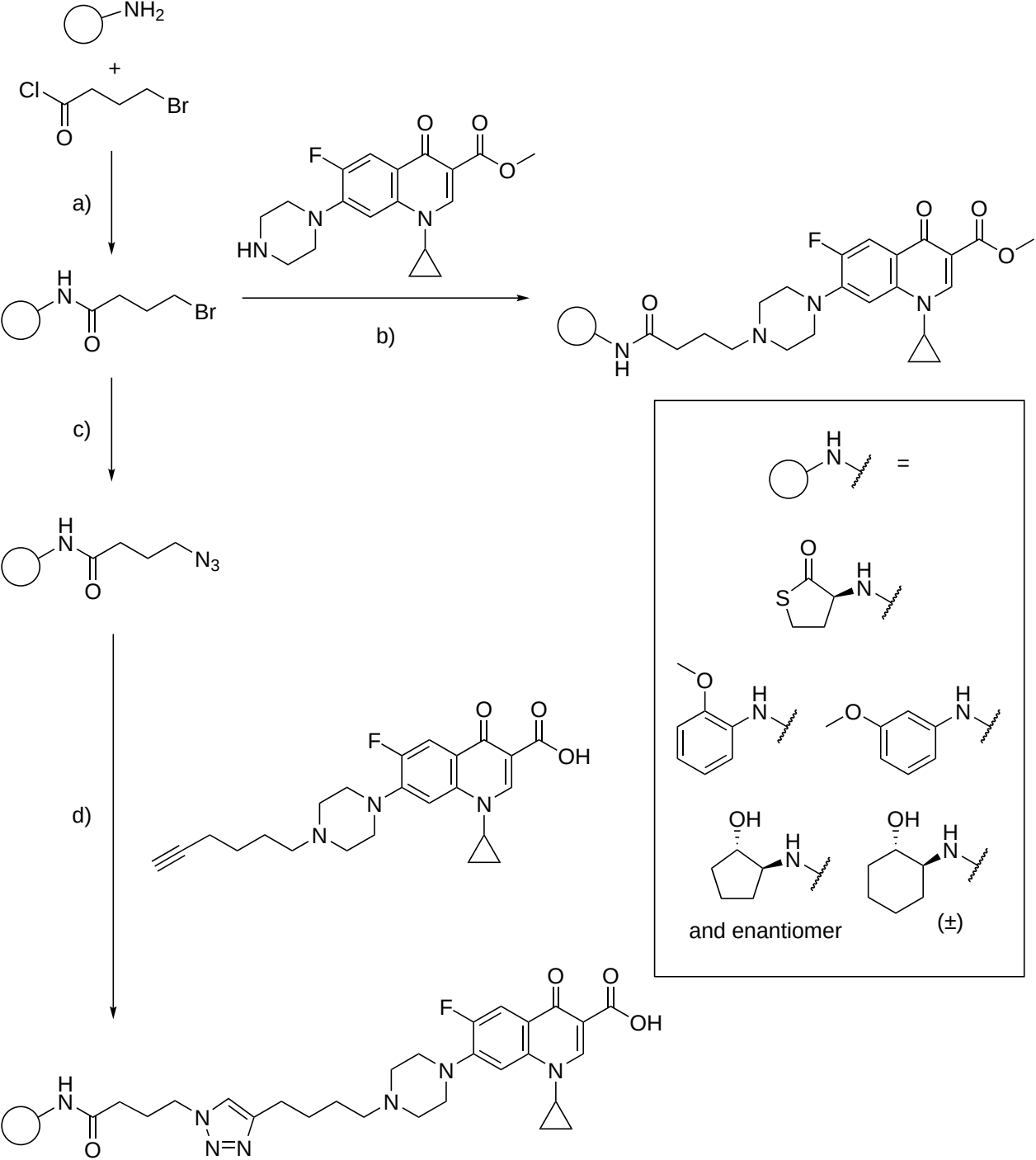


(±)



NH2
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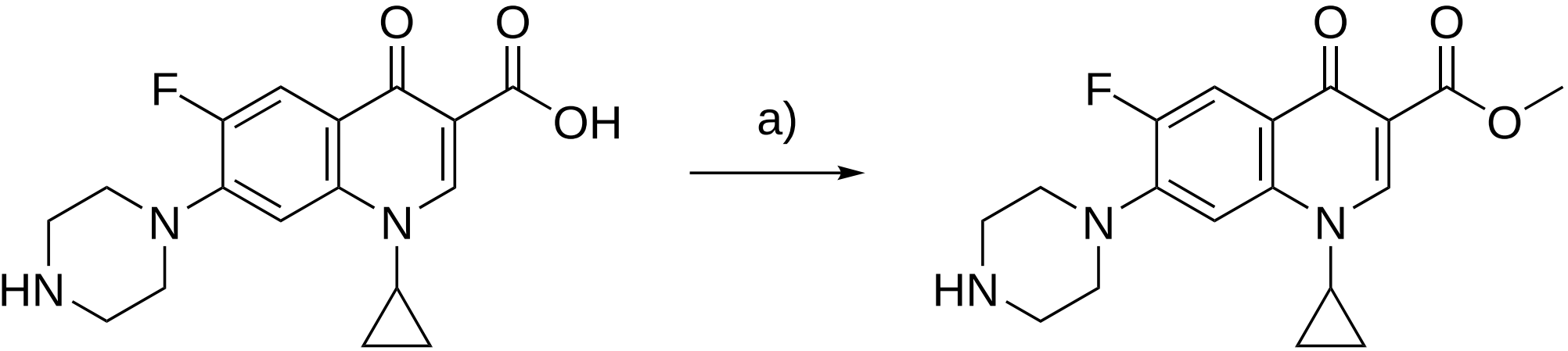
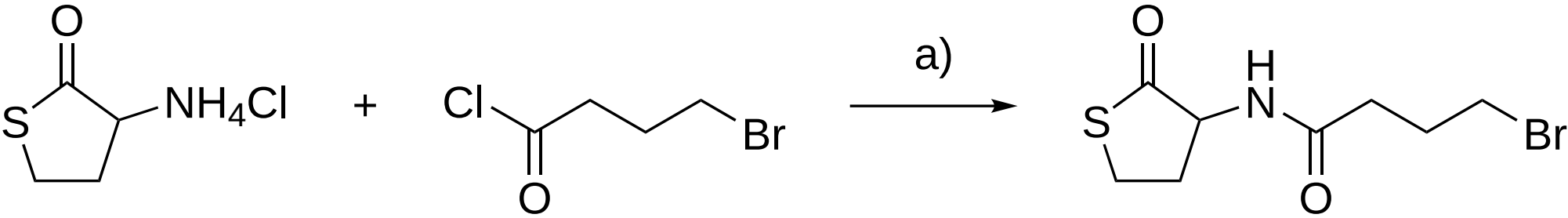
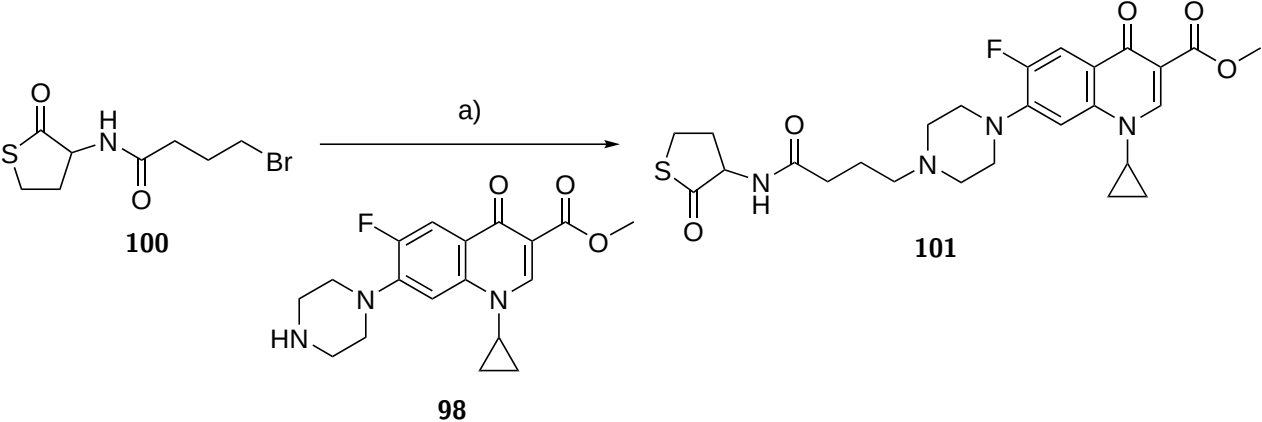


24 **98**



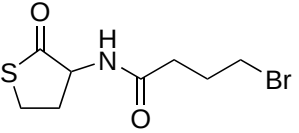
99 **54** **100**



100

98

101



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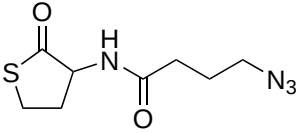
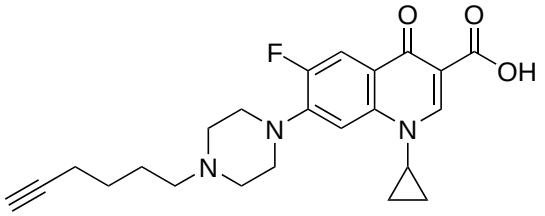


102

b)



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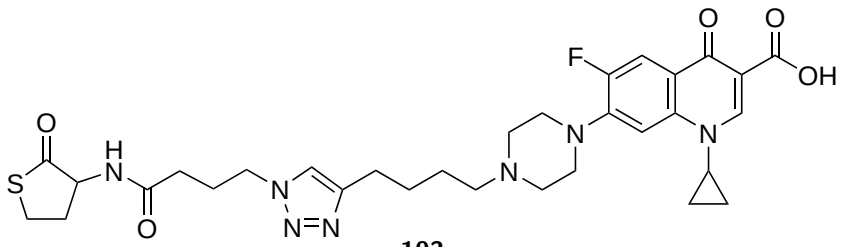
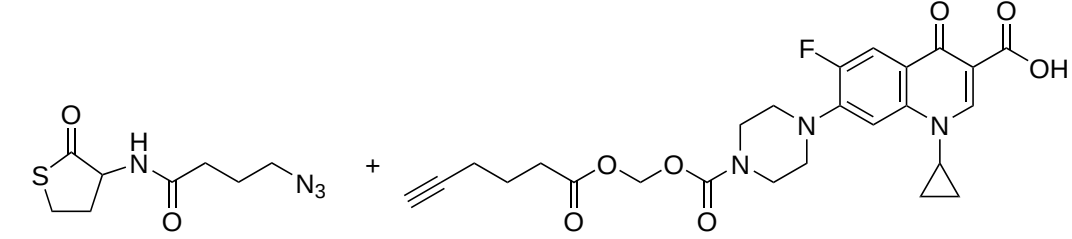
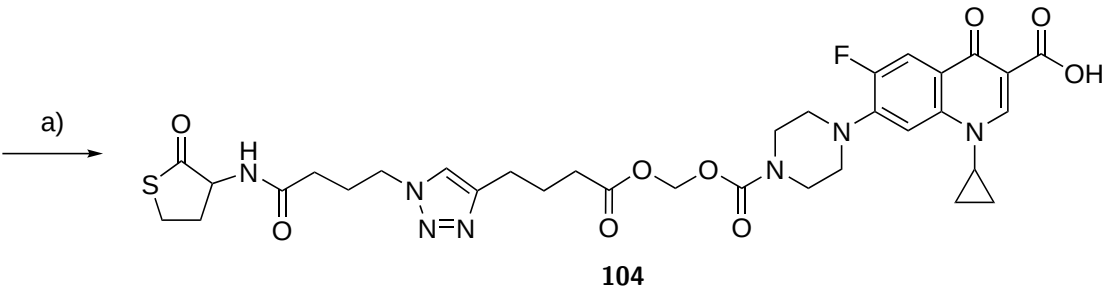


103



102 + **88**

a)



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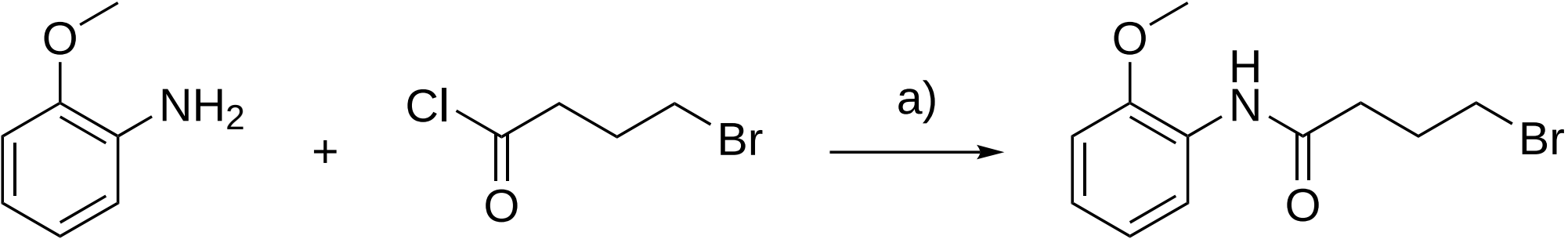
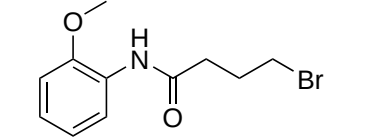


105 **54** **106**



106

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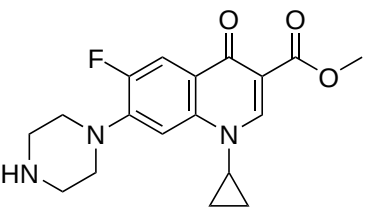

98

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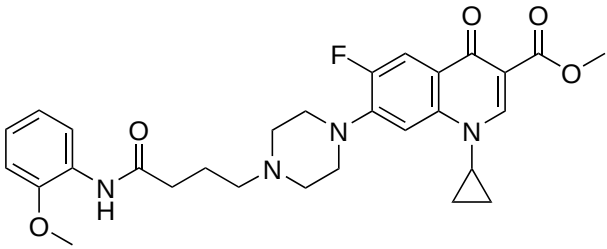

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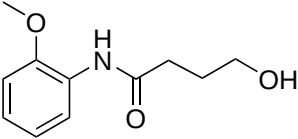
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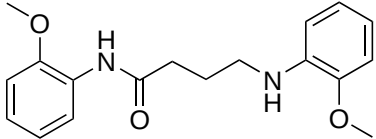
OH

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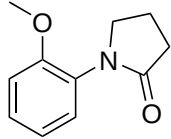
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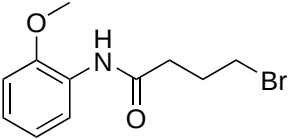

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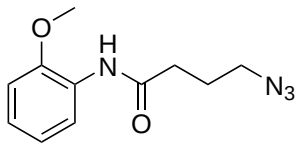

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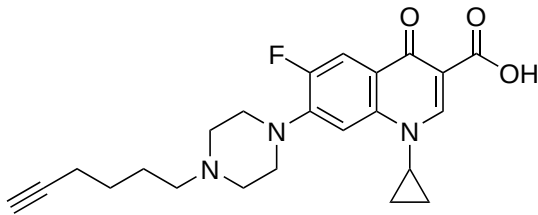

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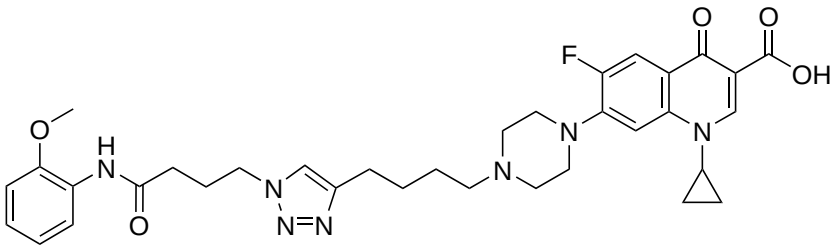

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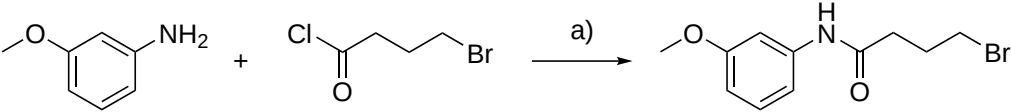

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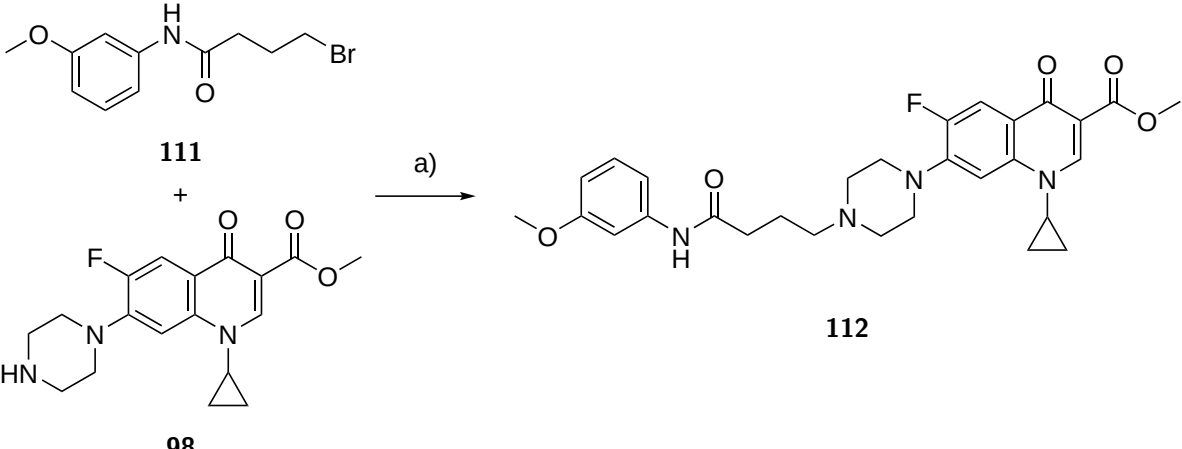
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98
a)
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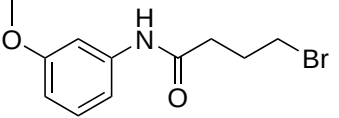

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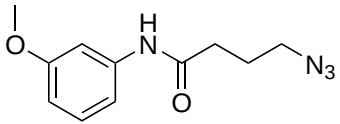

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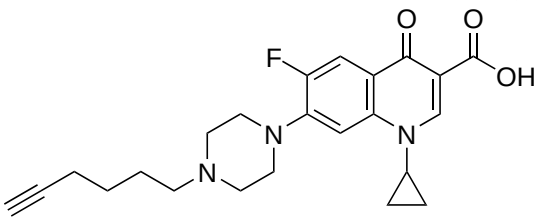

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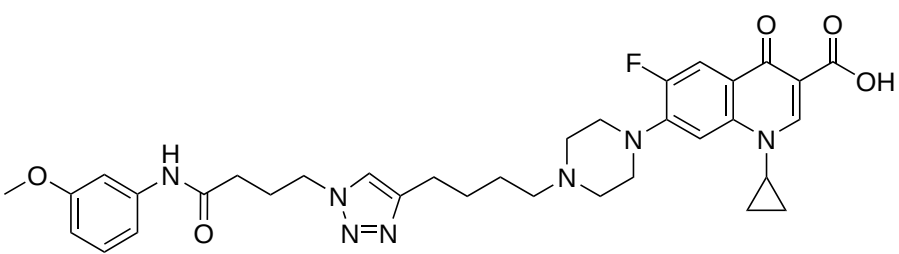

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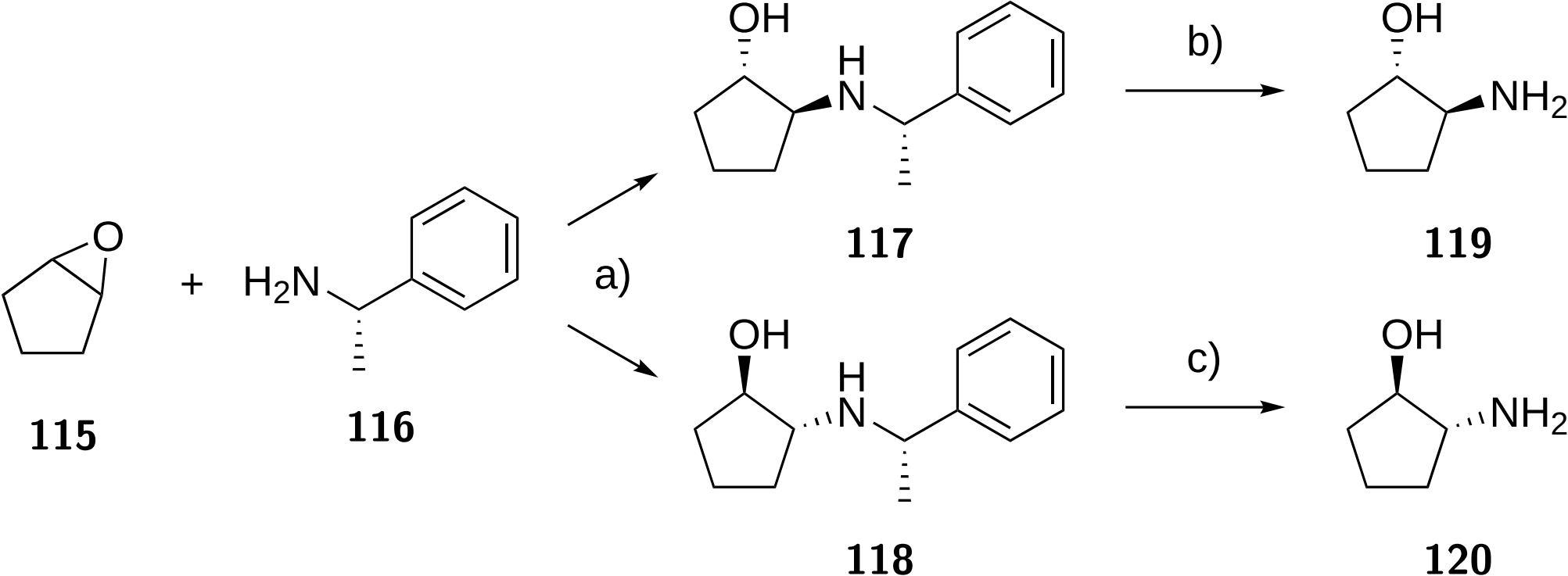
O
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H2N
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OH
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117
b)
OH
NH2
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116
OH
H
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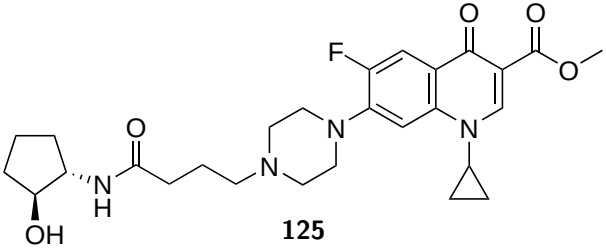
c)
OH
NH2
120



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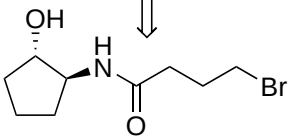

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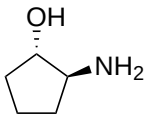

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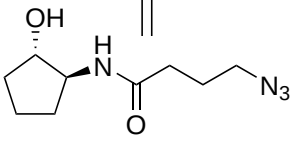

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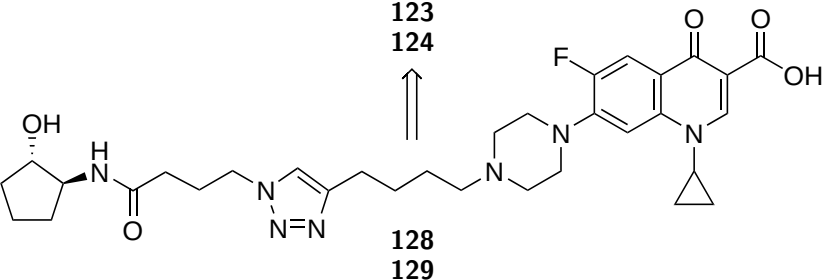

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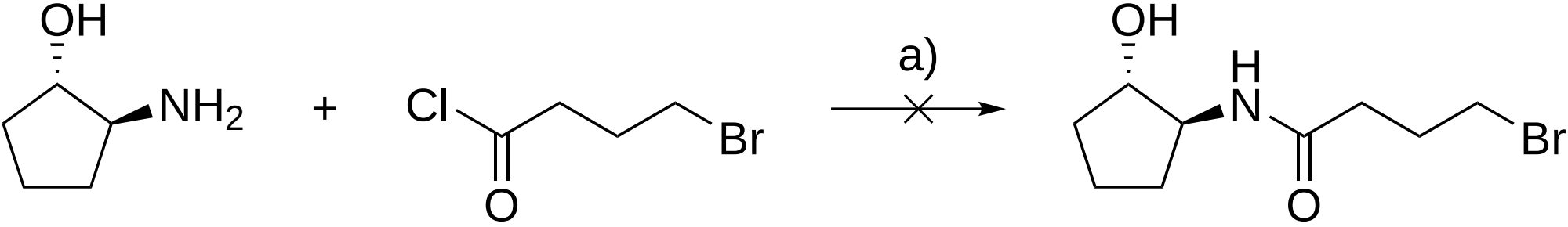
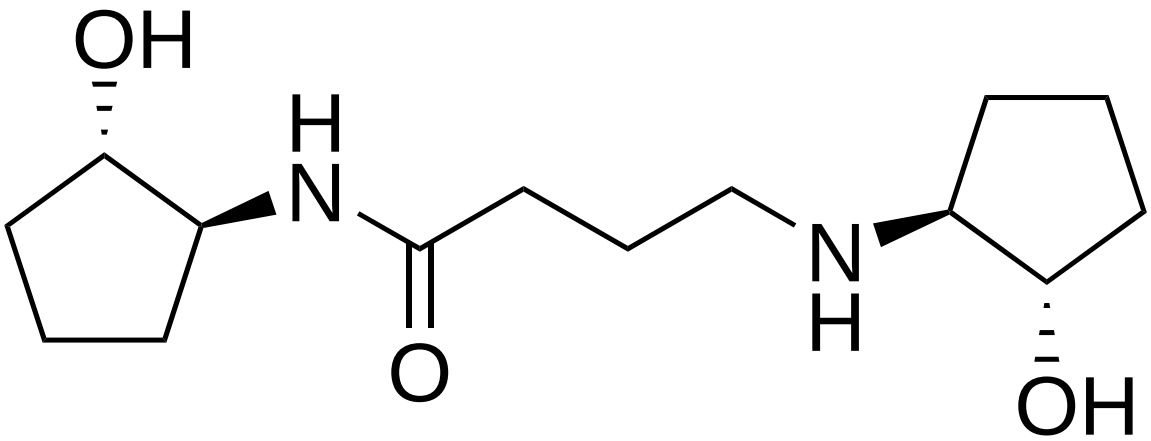


119 **54** **121**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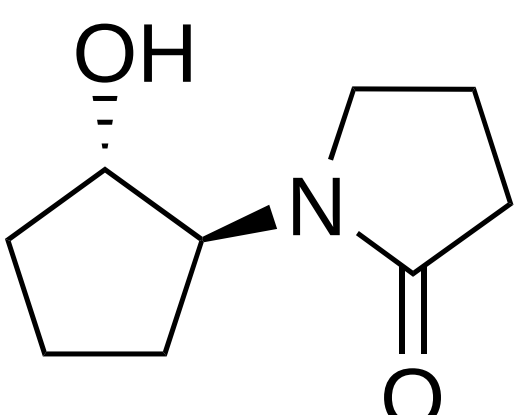
H
OH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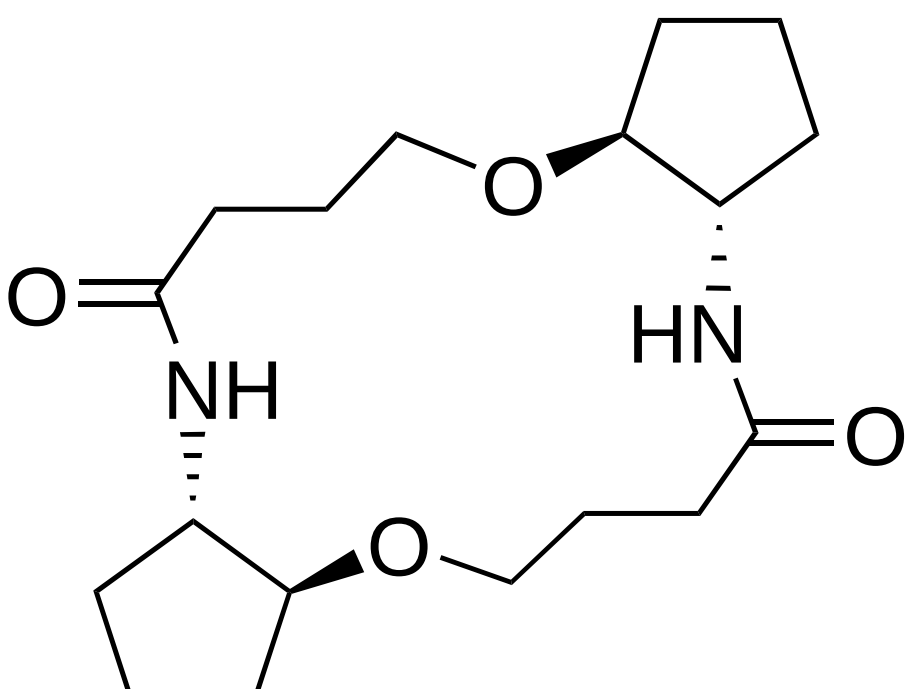
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O
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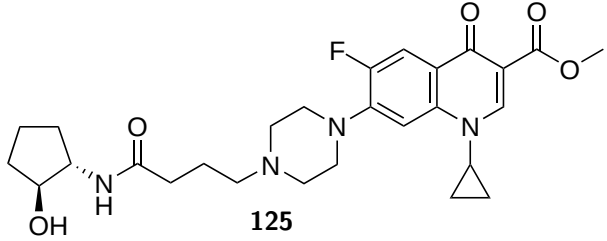

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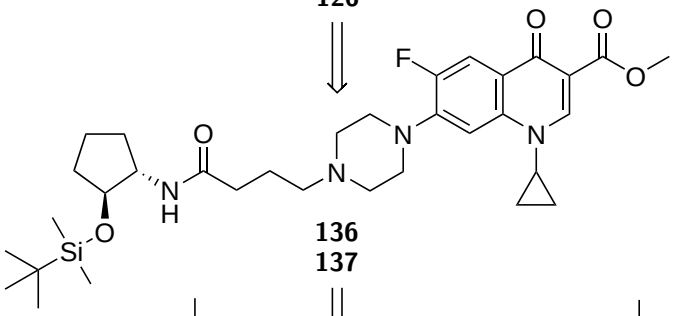

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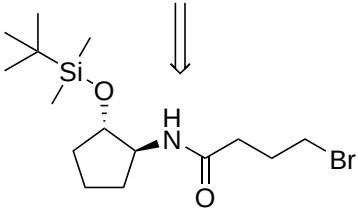

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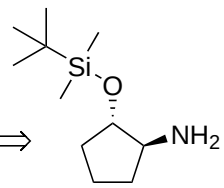

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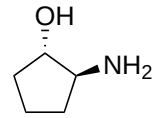

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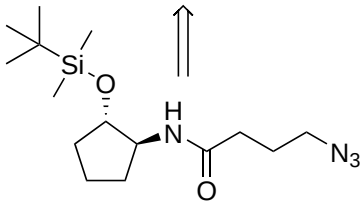

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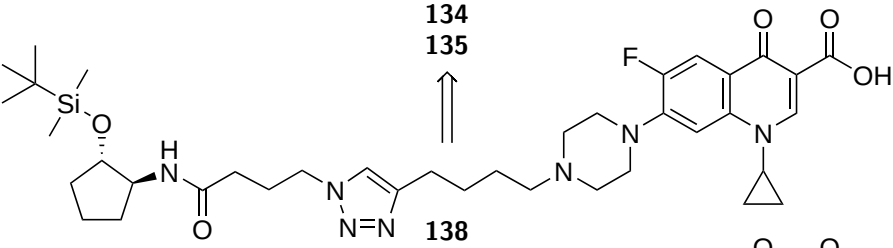

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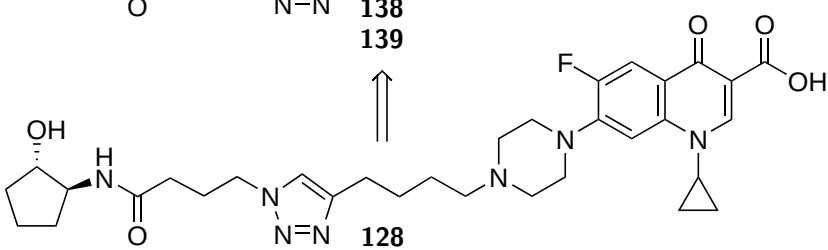

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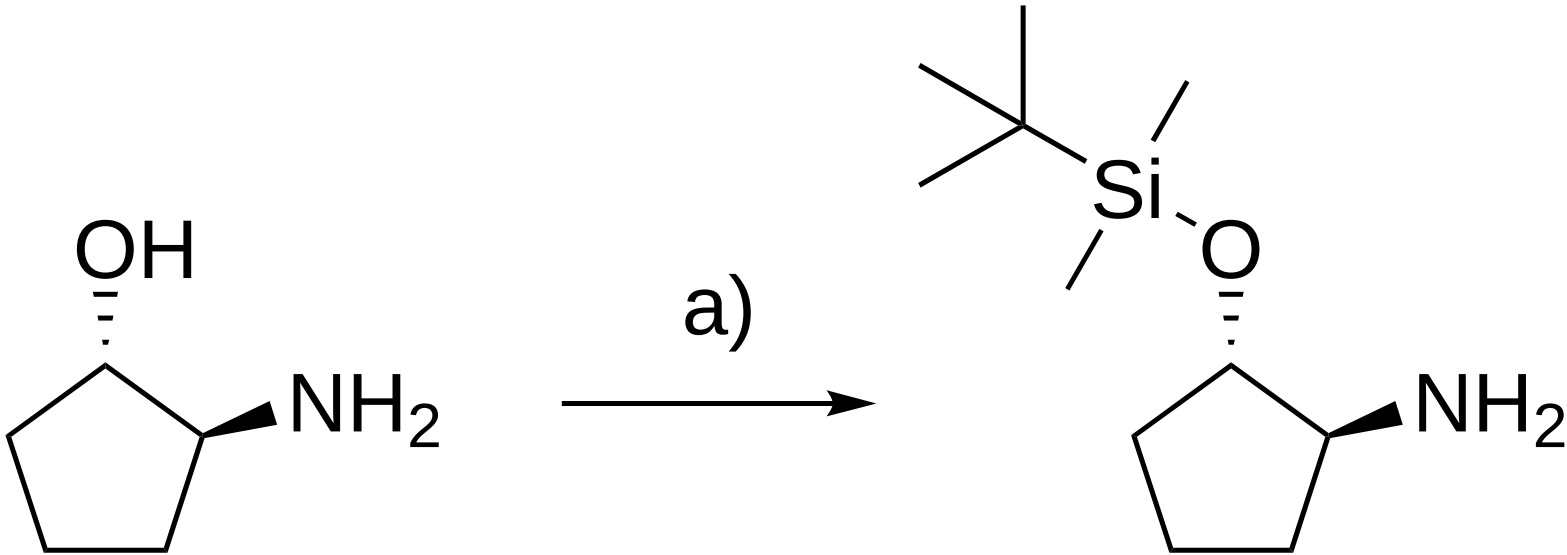
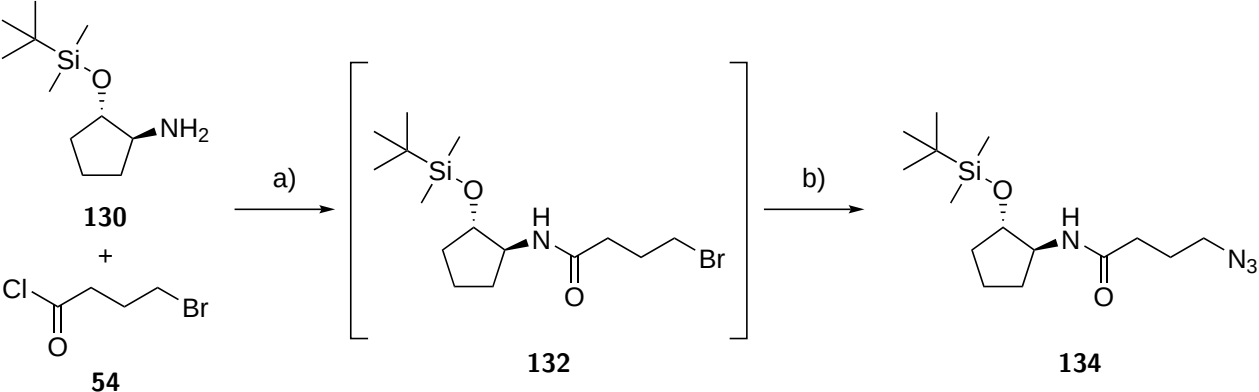


119 **130**

130 **54** **132**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O
NH2
130
+
Cl
Br
O
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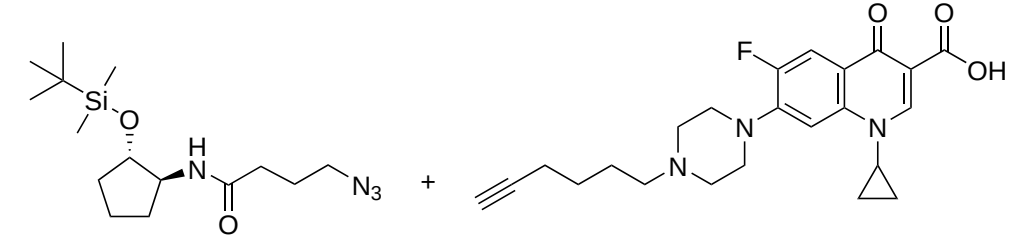
Si
O
H
N
Br
O
132
b)
Si
O
H
N
N3
O
134



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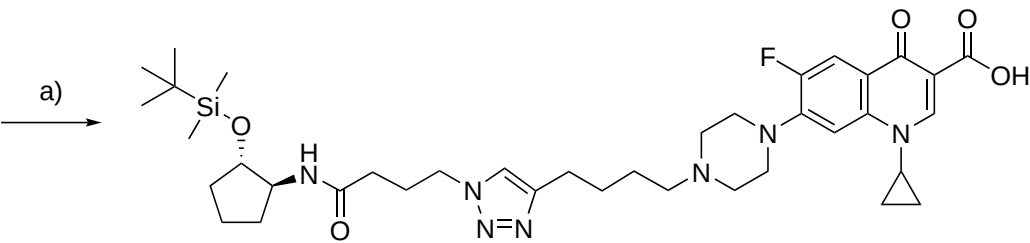

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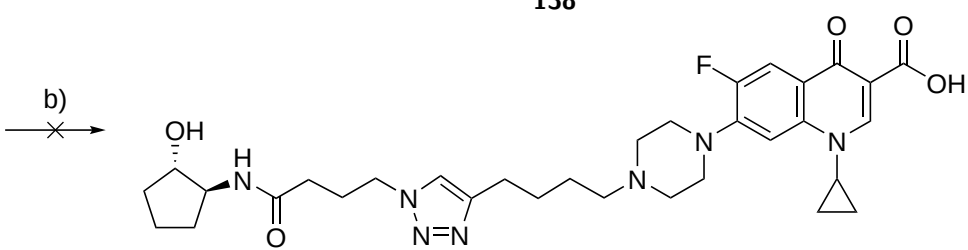
b)



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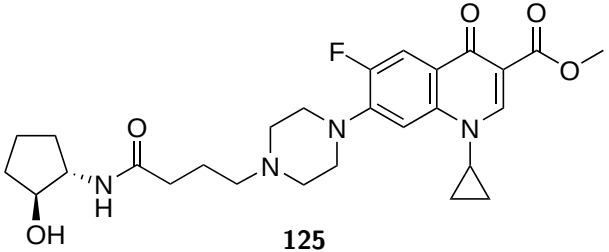

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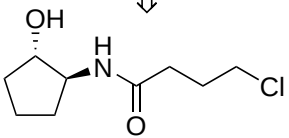

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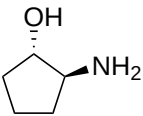

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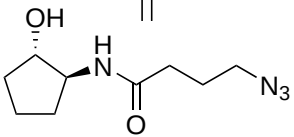

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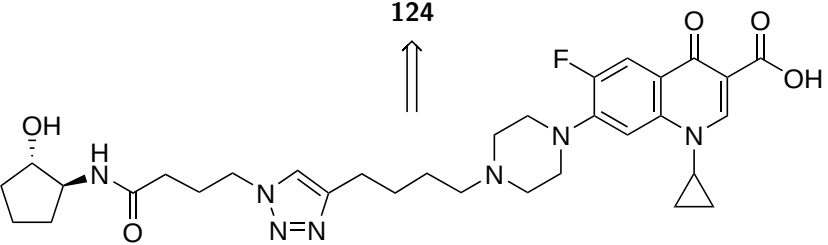

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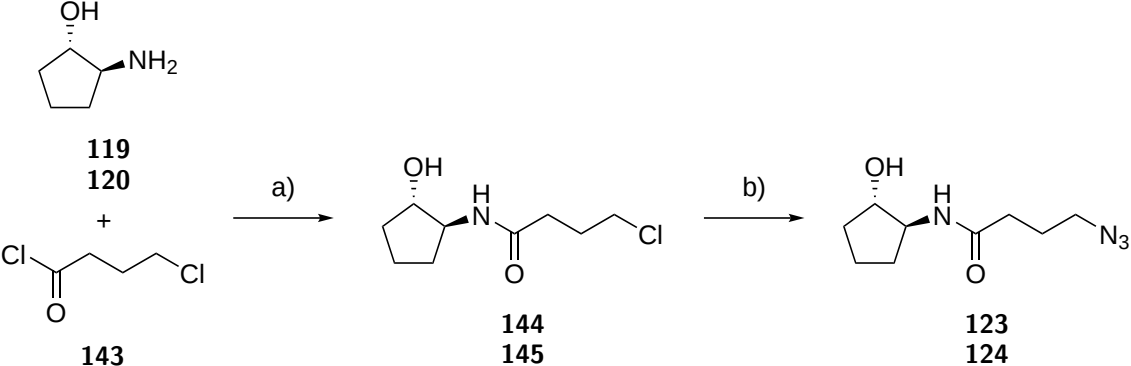
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NH2
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+
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OH
H
N
Cl
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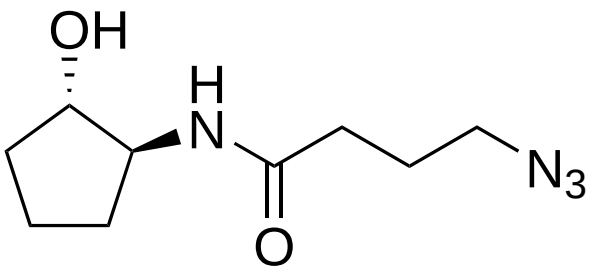
144
145
b)
OH
H
N
N3
O
123
124



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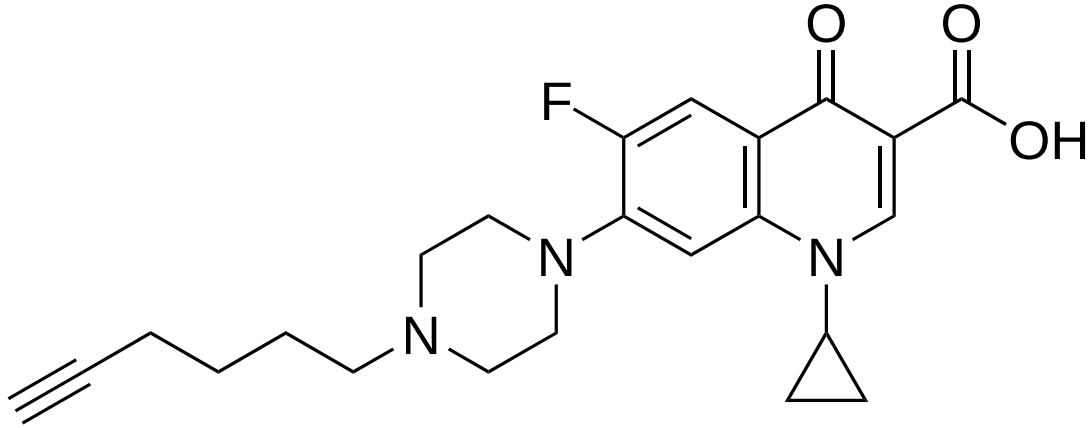

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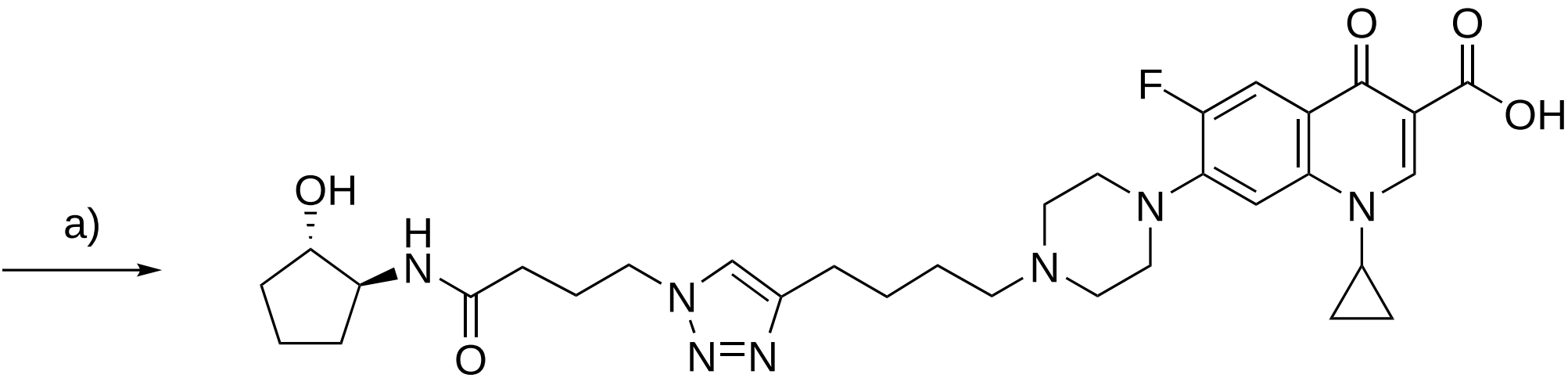

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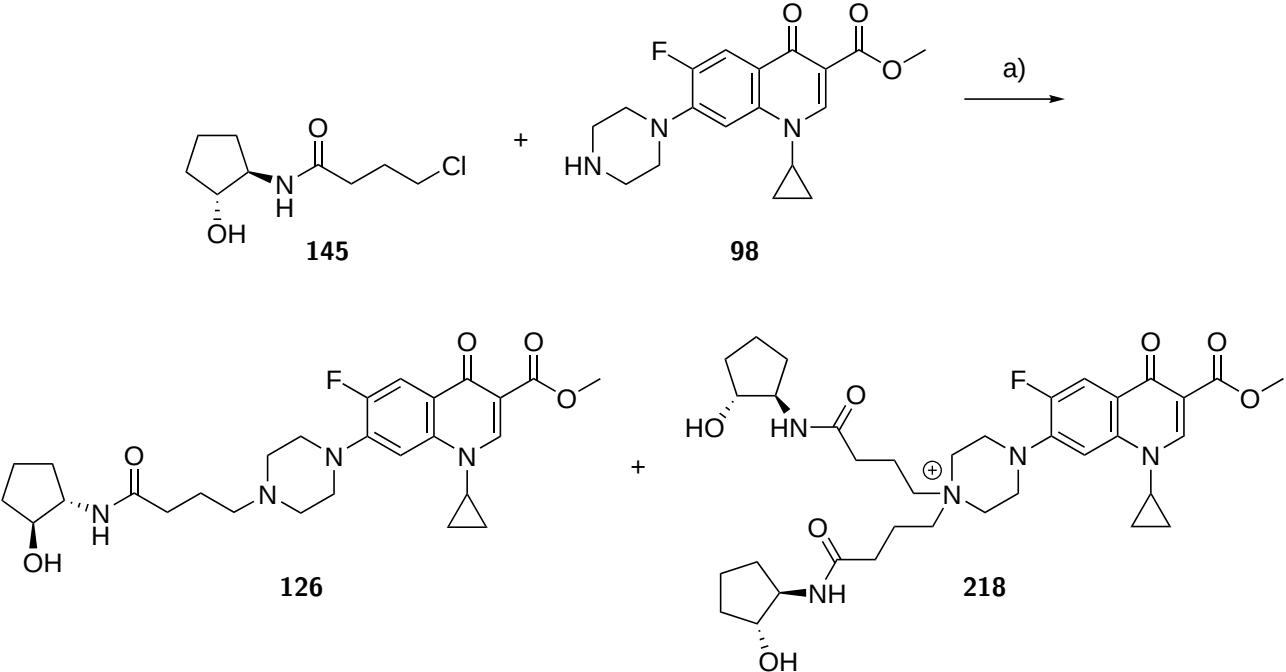
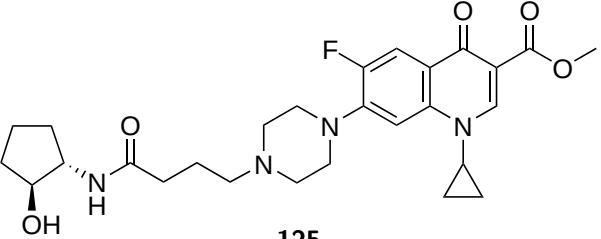

a)
145
98
126
218



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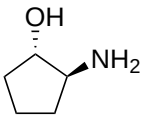

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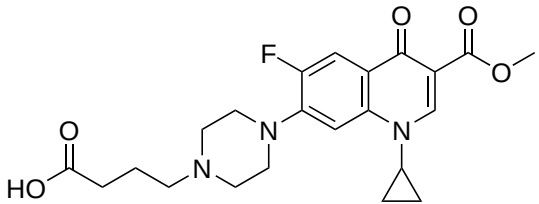

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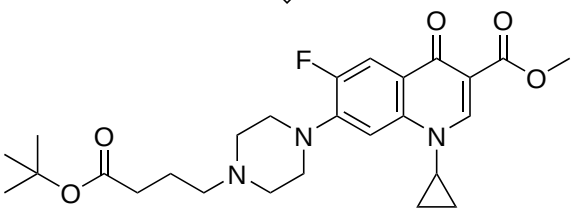

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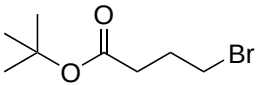

140

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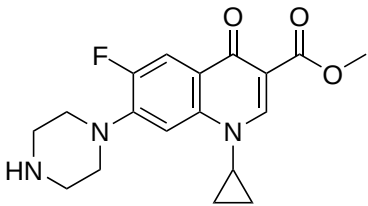

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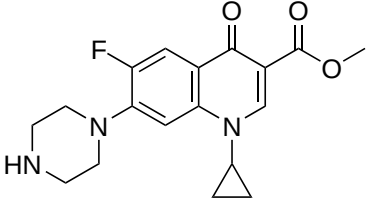

98

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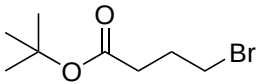

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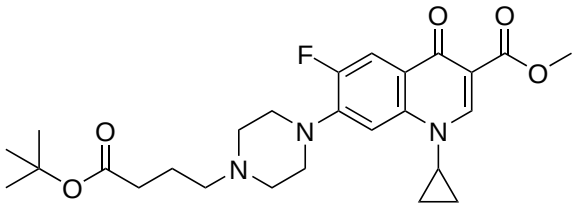

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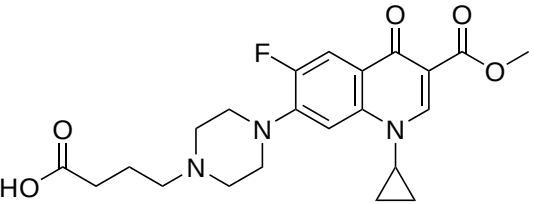

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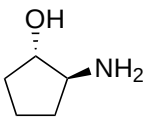
c)



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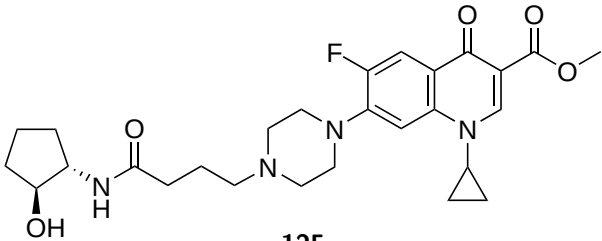

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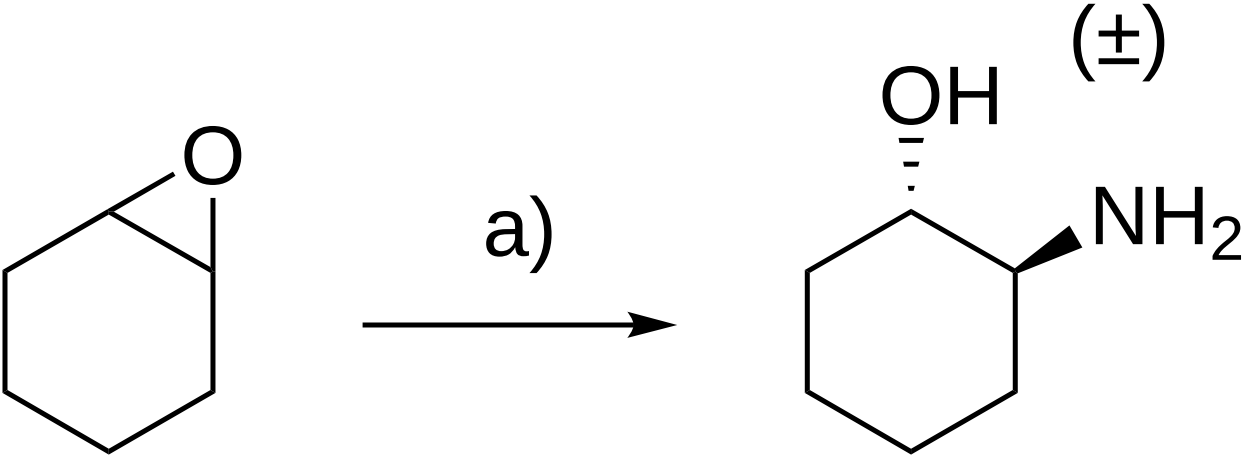
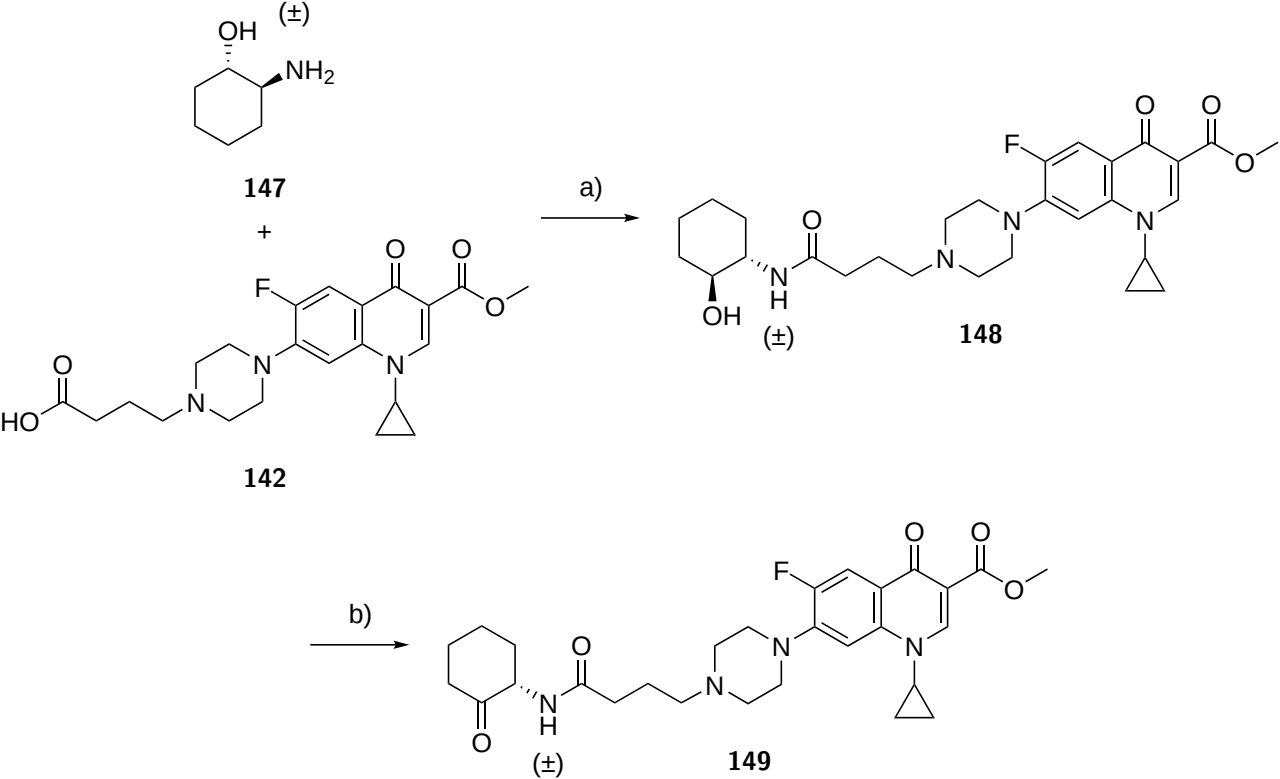


146 **147**


(±)
OH
NH2
147
+
O
O
F
O
O
N
N
N
HO
142
a)
O
O
F
O
O
N
N
N
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(±)
148
b)
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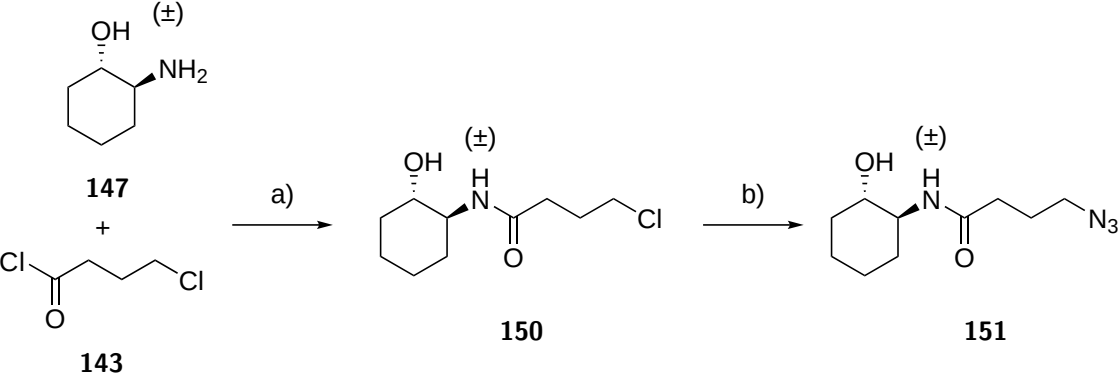
O
(±)
149


(±)
OH
NH2
147
+
Cl
Cl
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143
a)
(±)
OH
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N
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Cl
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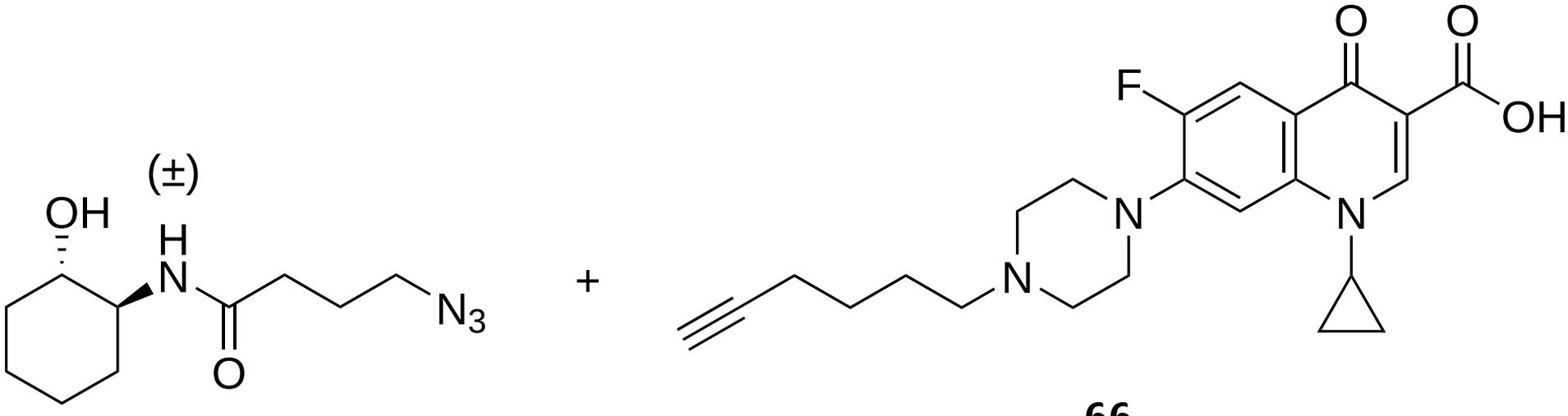
b)
(±)
OH
H
N
O
N3
151



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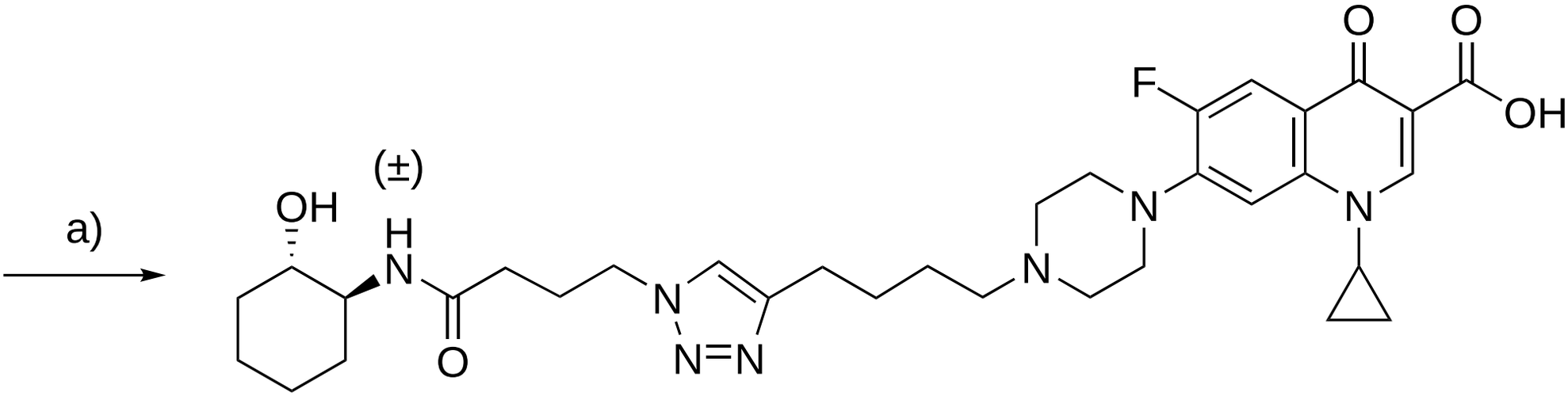

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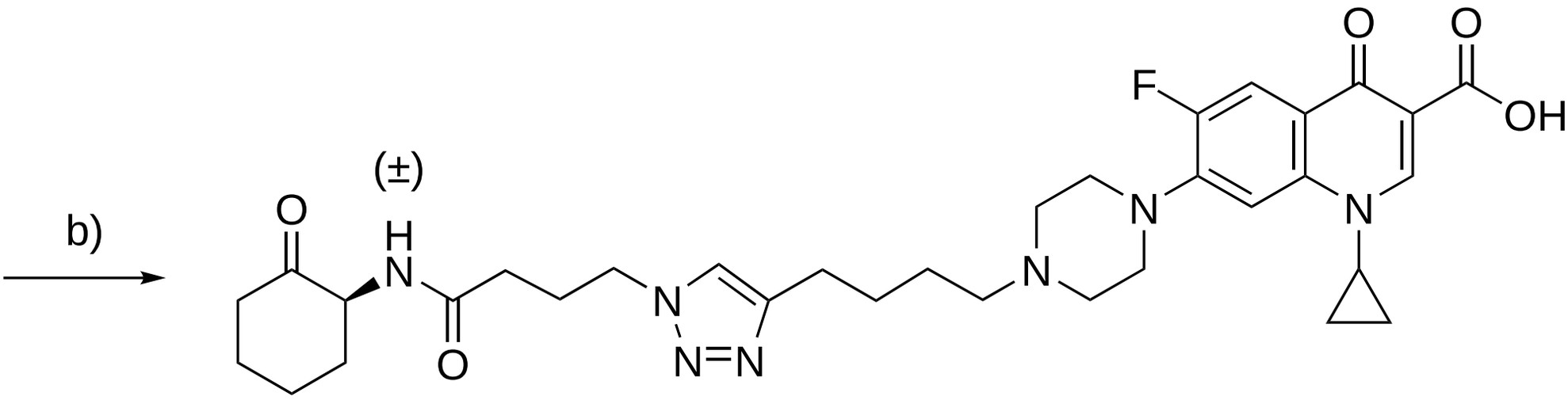

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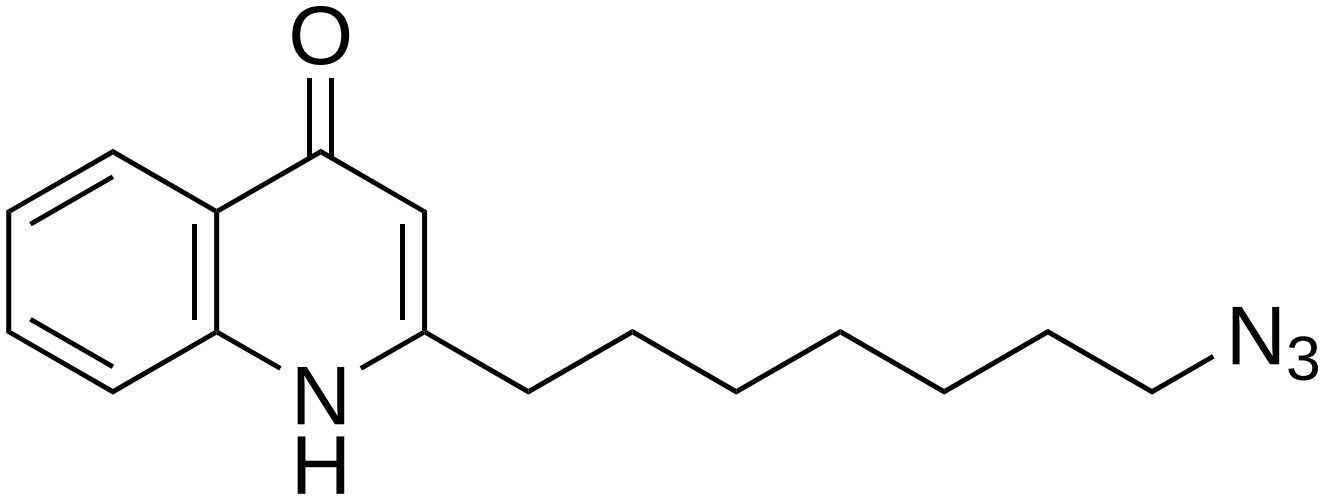

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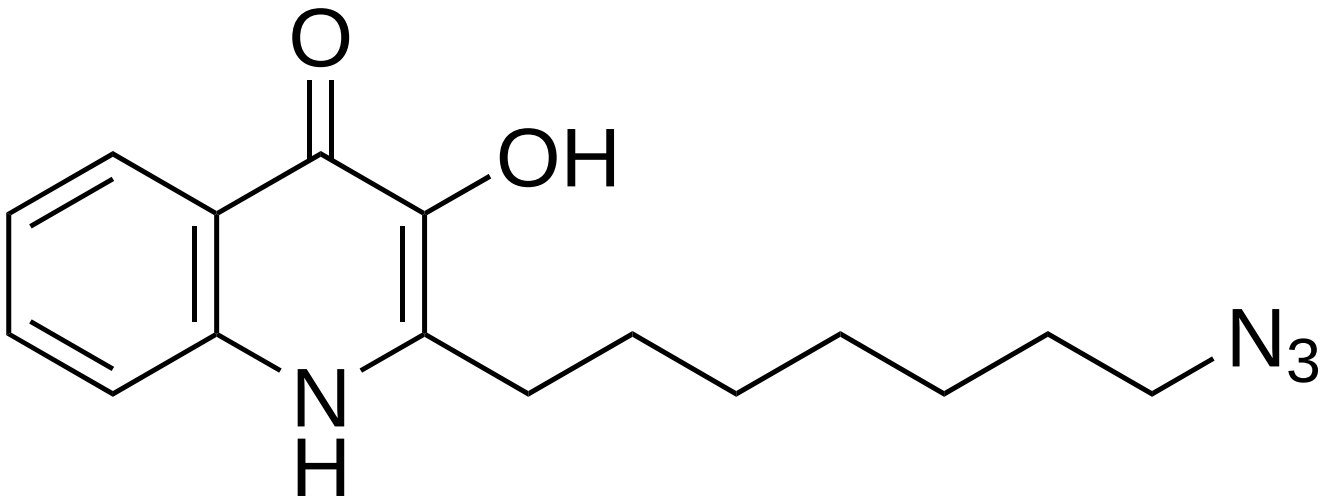

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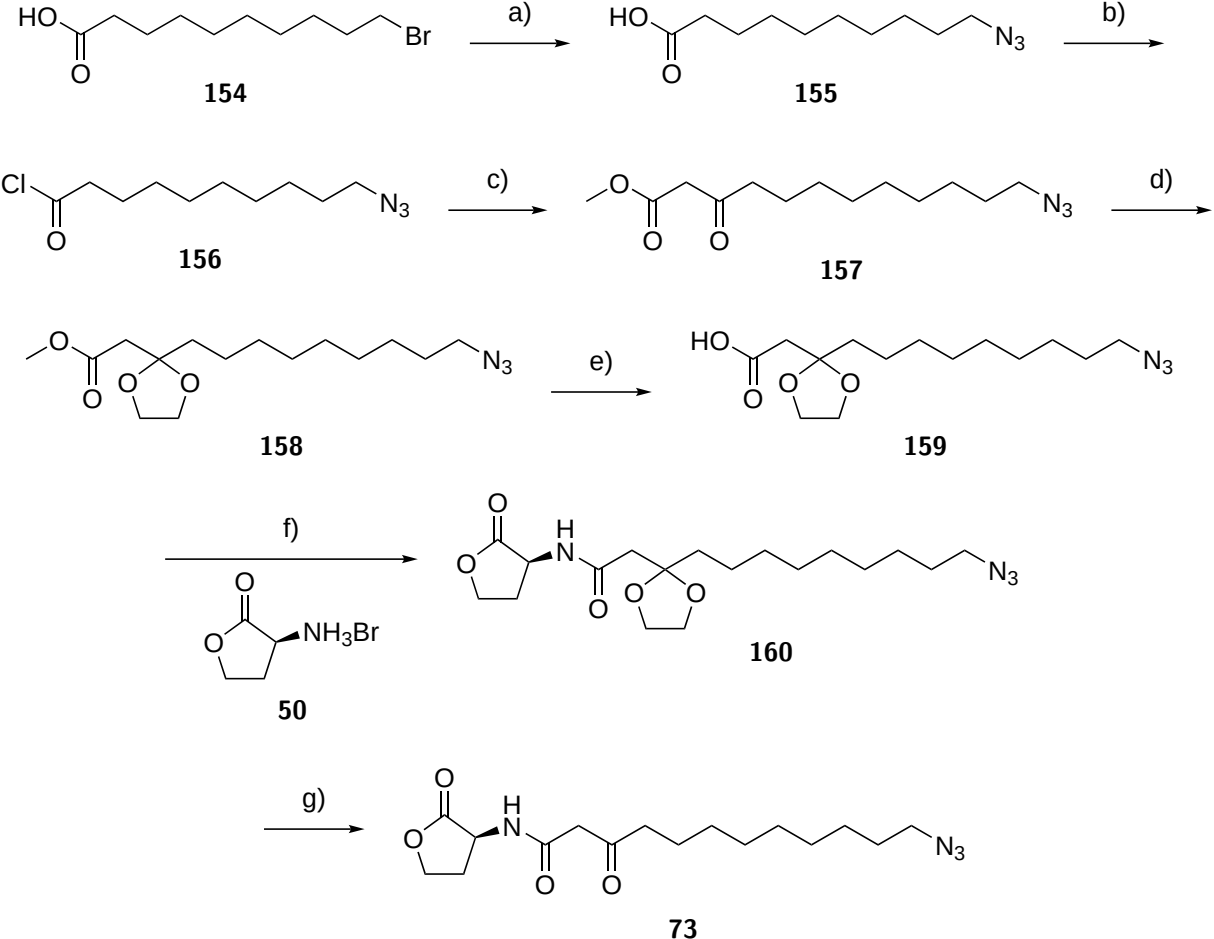
HO
O
Br
154
a)
HO
O
N3
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b)
Cl
O
N3
156
c)
O
O
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N3
157
d)
O
O
O
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N3
158
e)
HO
O
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N3
159
f)
O
O
NH3Br
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N3
160
g)
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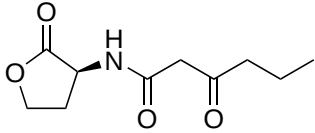
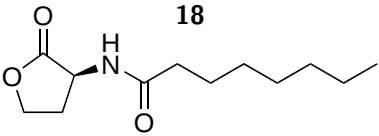
O
N3
73



3-oxo-C_6-HSL

18



C_8-HSL

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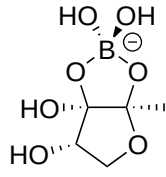
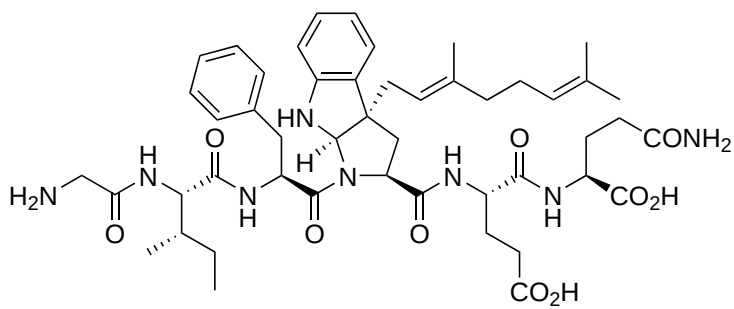


AI-2

23



ComX

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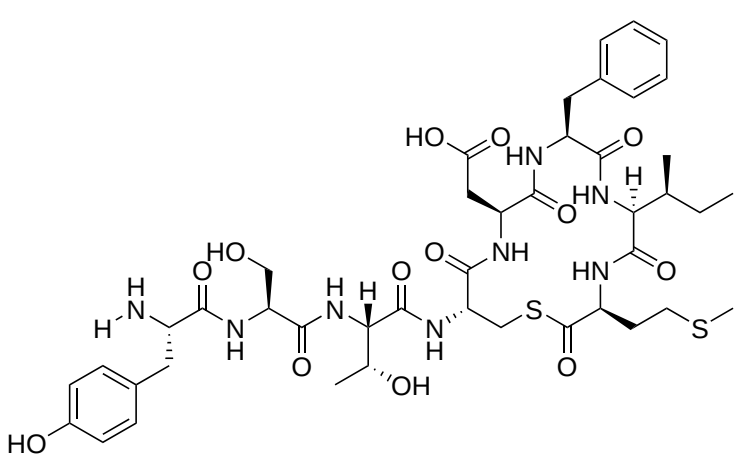
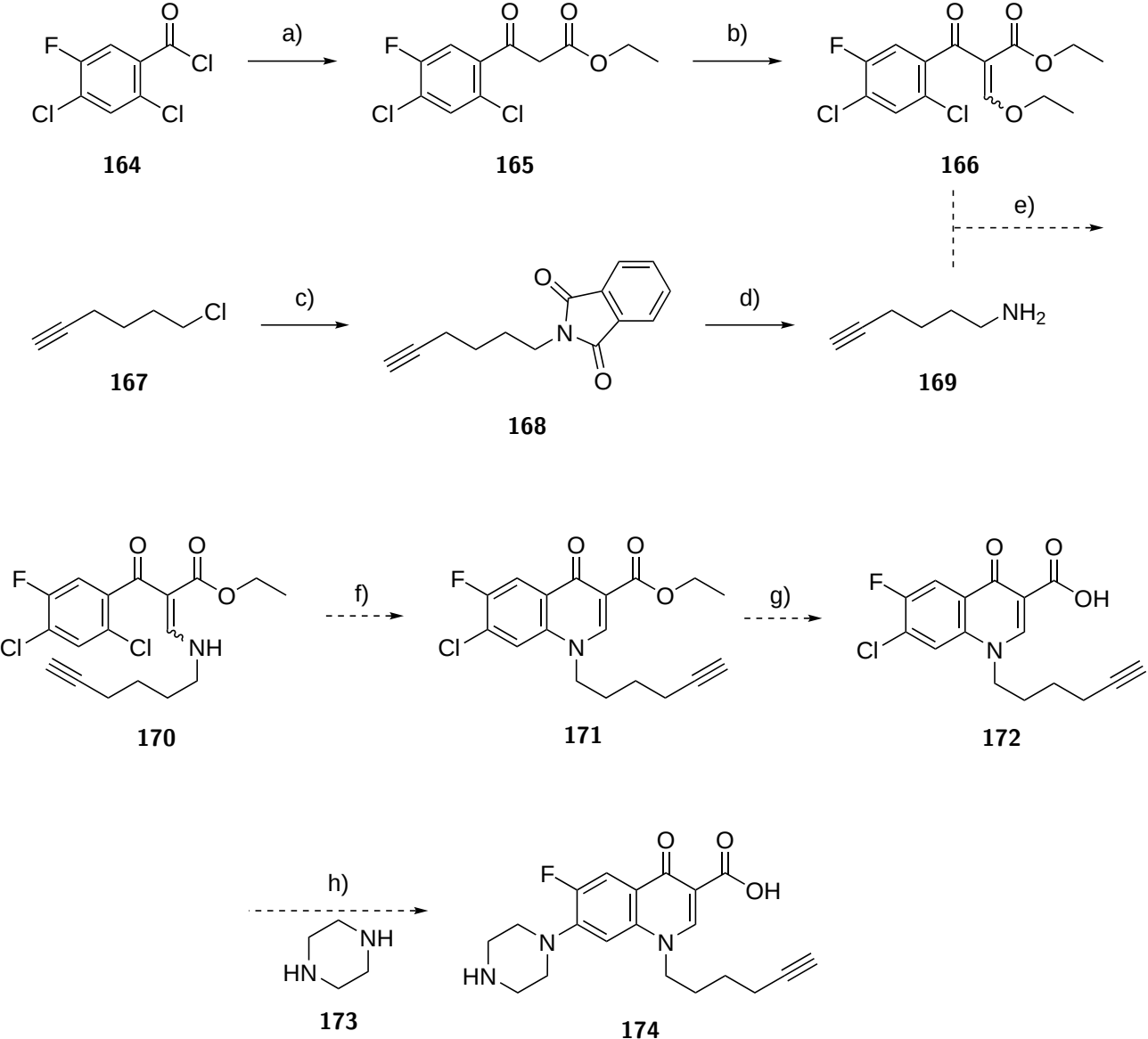


AIP

163


a)
b)
c)
d)
e)
f)
g)
h)
164
165
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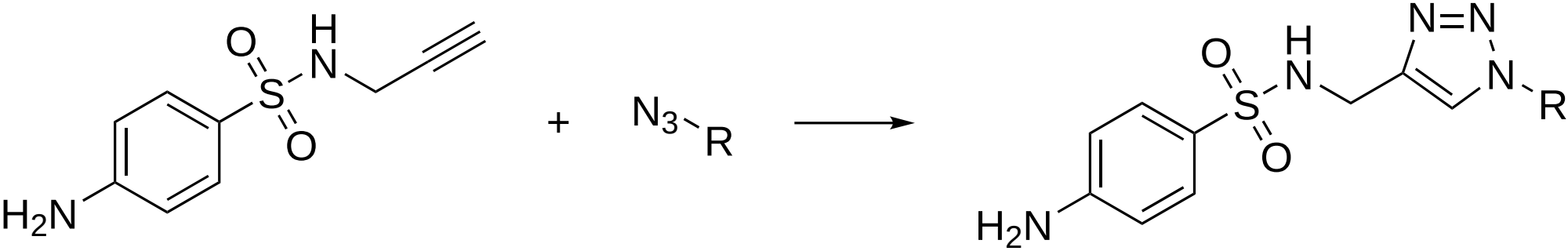
167
168
169
170
171
172
173
174

Prontosil
175

Sulfanilamide
176

1,2,4-triaminobenzene
177


O
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H2N
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N3
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N=N
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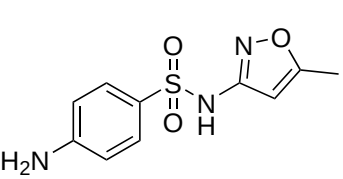
H2N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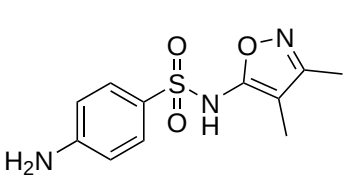
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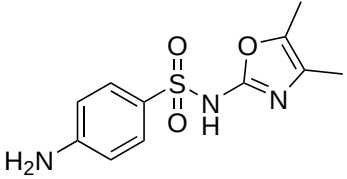
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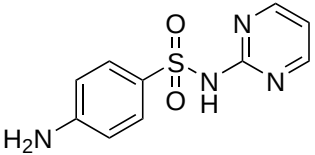
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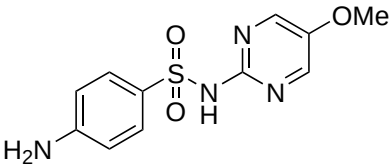
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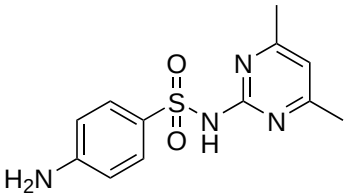
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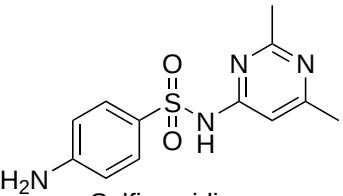
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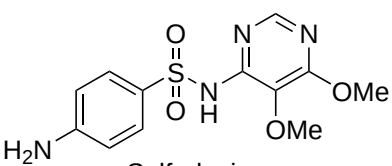
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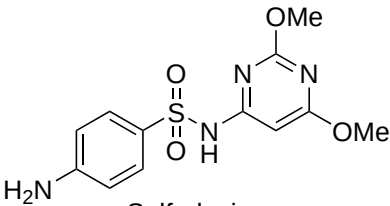
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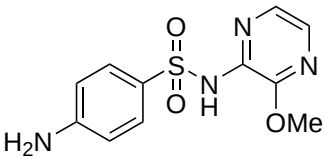
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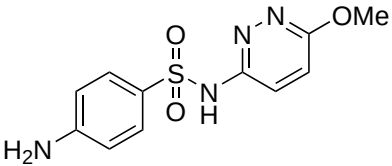
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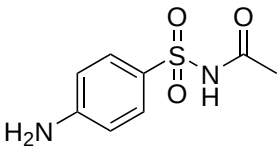
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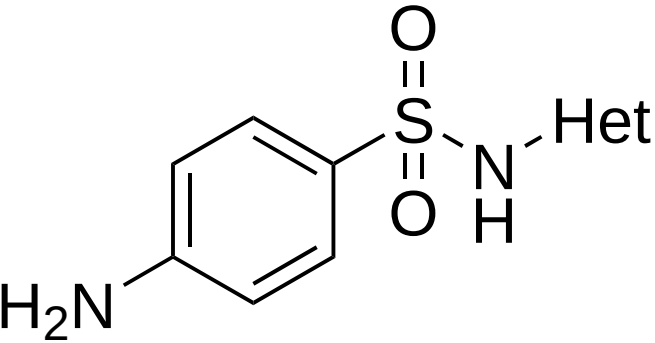

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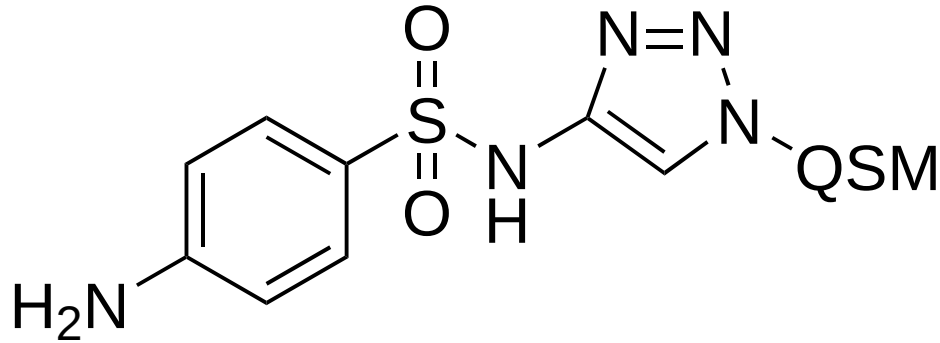

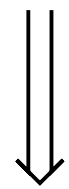

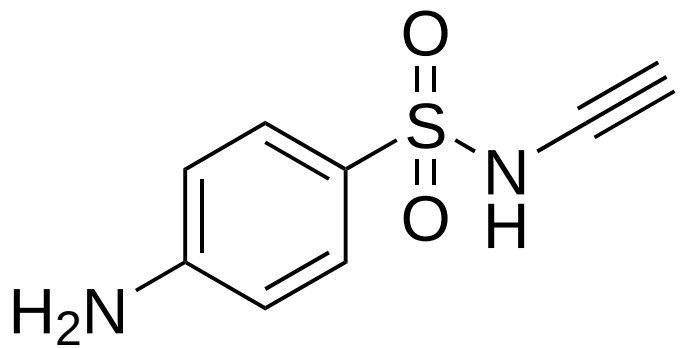

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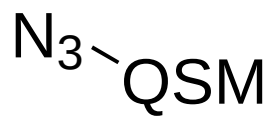

178

H
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A
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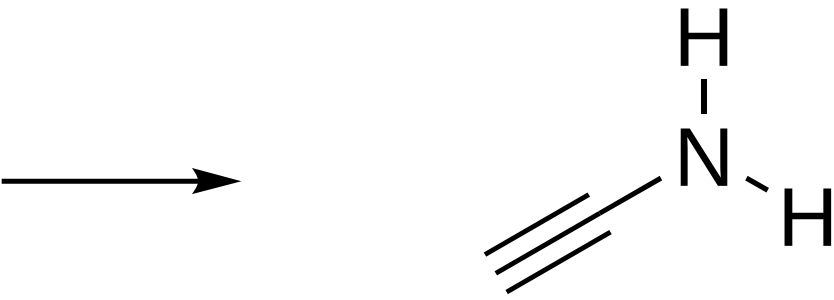
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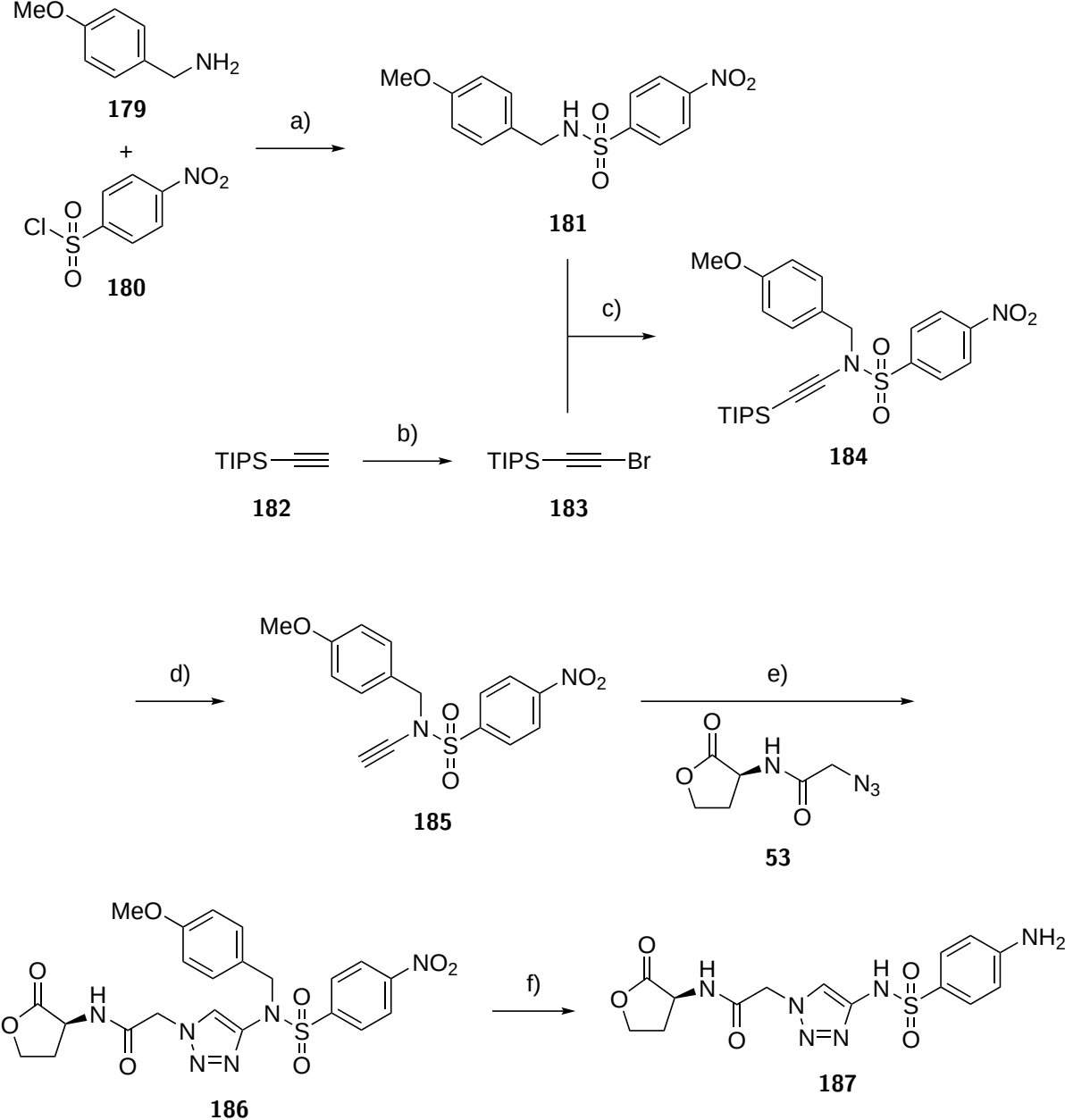
N
H


MeO
NH2
179
+
NO2
Cl
O
S
O
O
180
a)
MeO
H
N
O
S
O
O
NO2
181
c)
MeO
NO2
N
O
S
O
TIPS
184
TIPS
b)
TIPS
Br
182
183
d)
MeO
NO2
N
O
S
O
185
e)
O
O
H
N
N3
O
53
MeO
NO2
O
O
H
N
N
N=N
N
O
S
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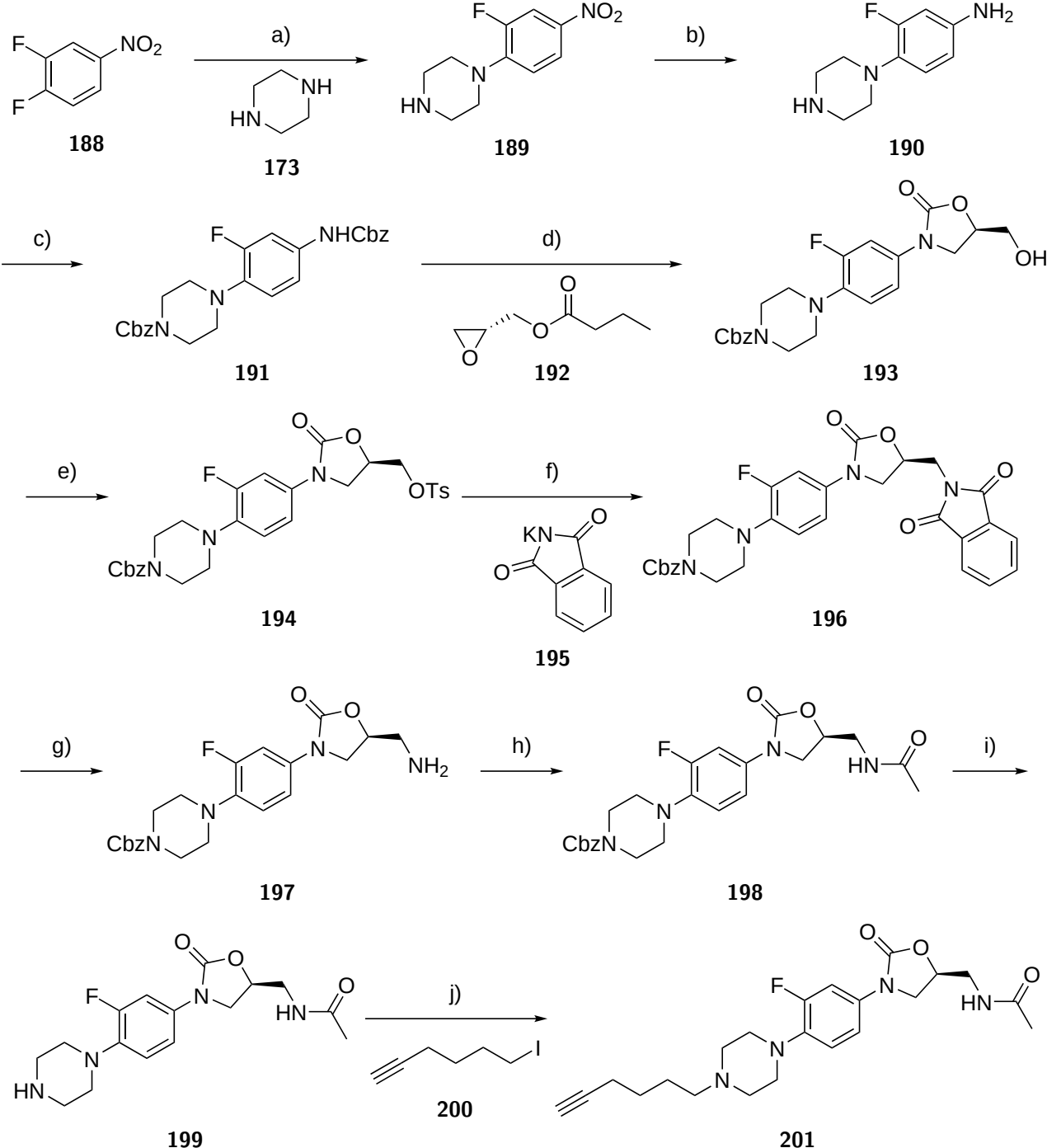
NH2
187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NH2
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c)
F
NHCbz
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CbzN
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d)
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O
192
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OH
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CbzN
193
e)
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OTs
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CbzN
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f)
KN
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g)
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NH2
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CbzN
197
h)
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i)
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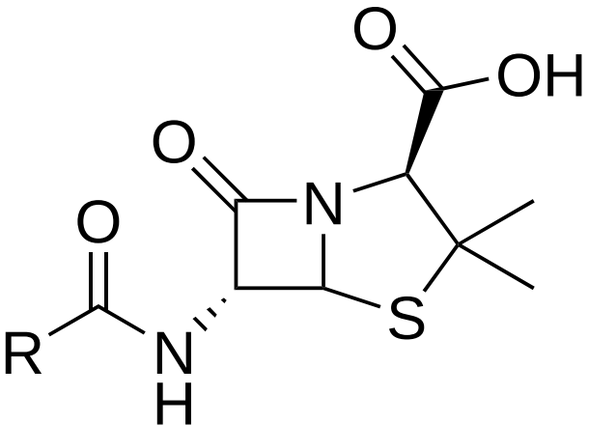

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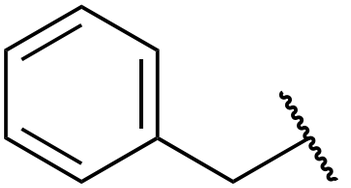
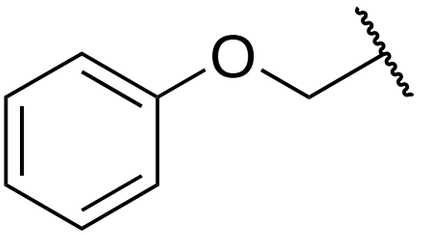
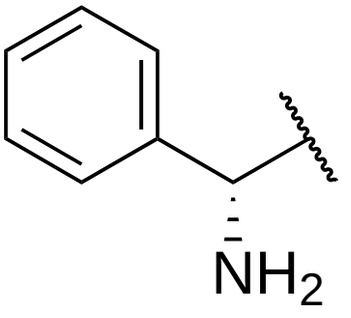
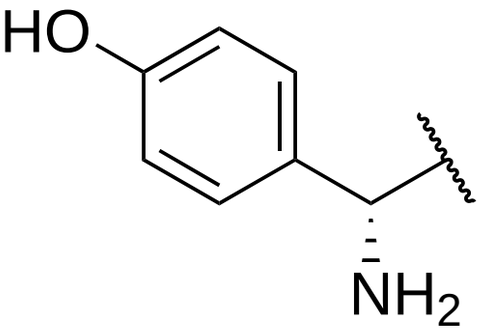
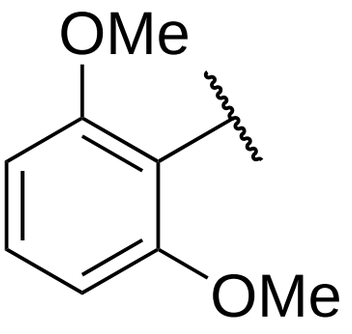
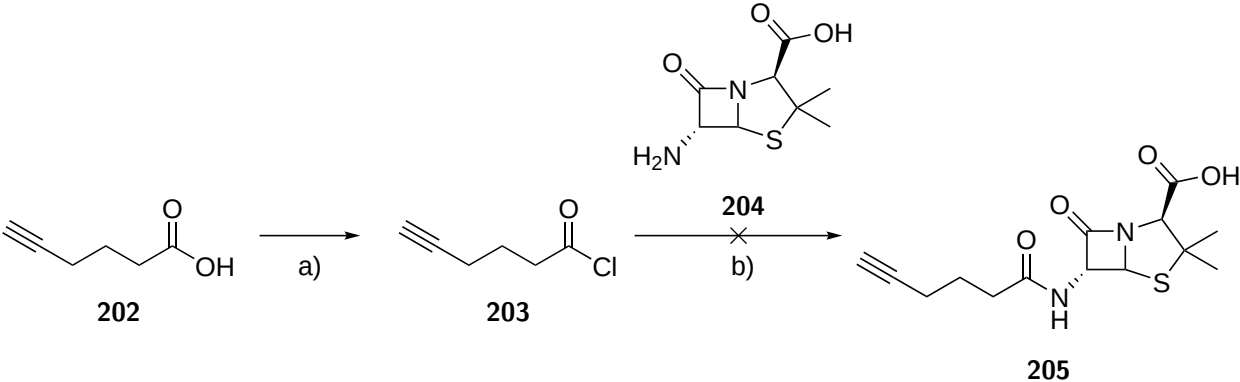
Penicillin G	
Penicillin V	
Ampicillin	
Amoxicillin	
Methicillin	


O
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202
a)
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203
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H2N
204
b)
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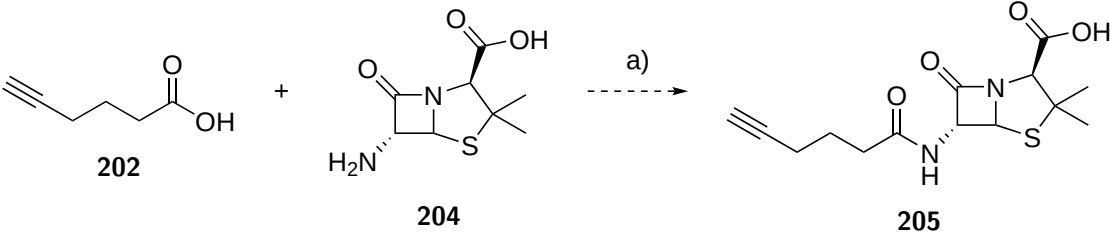
H
205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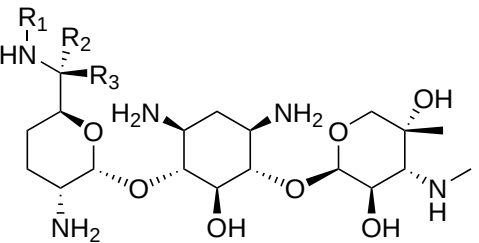
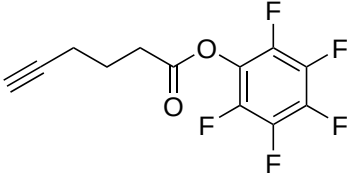
H
205



Gentamicin	R_1	R_2	R_3
C1	Me	Me	H
C1a	H	H	H
C2	H	Me	H
C2a	H	H	Me
C2b	Me	H	H



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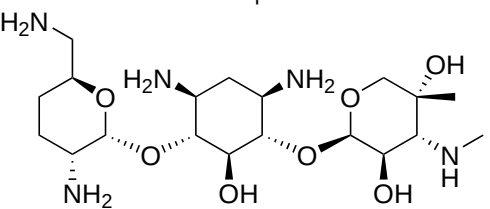

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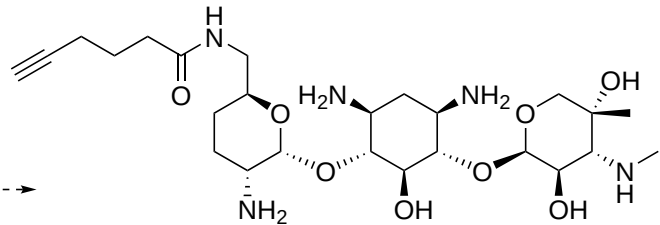

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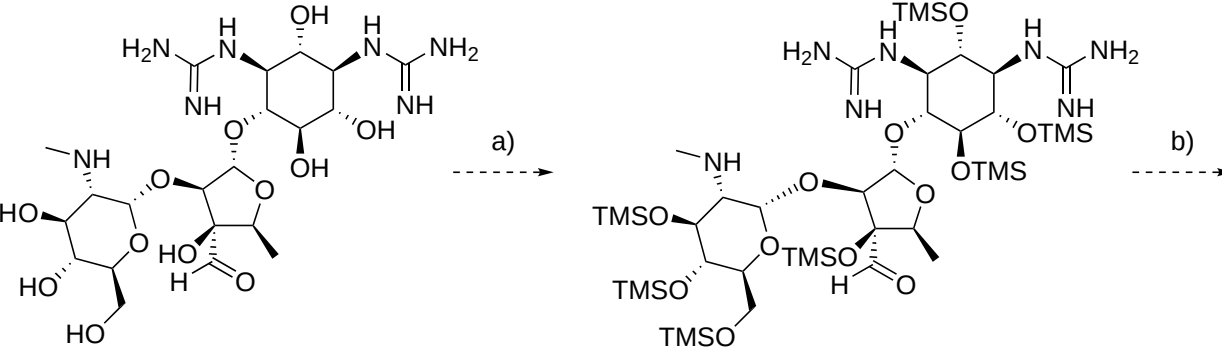

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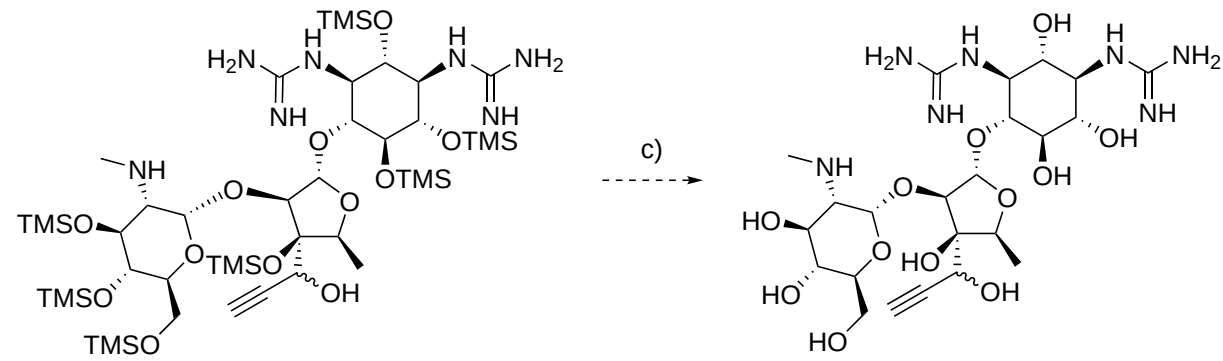

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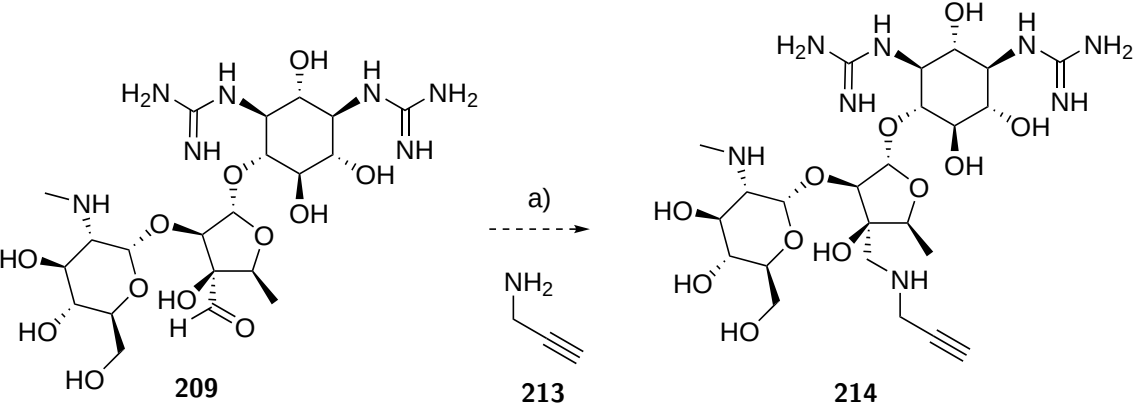
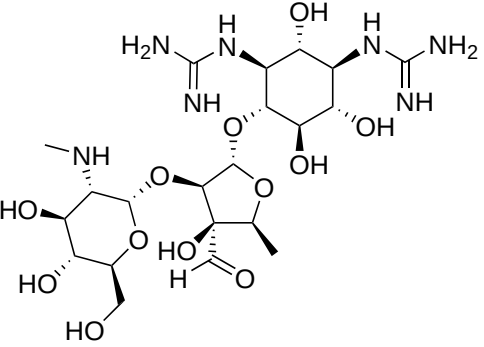


209 **213** **214**



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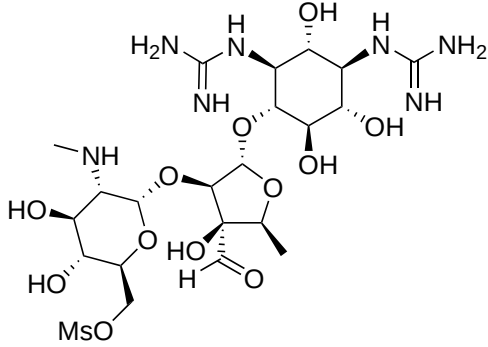

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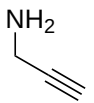

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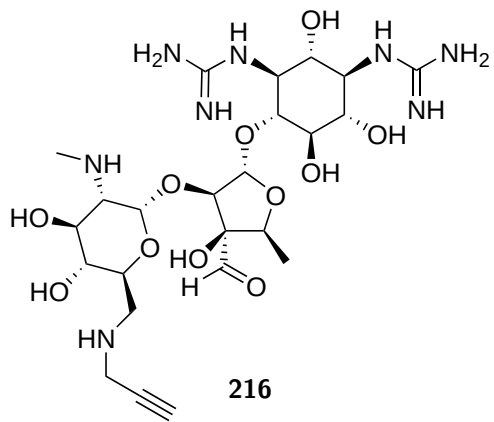

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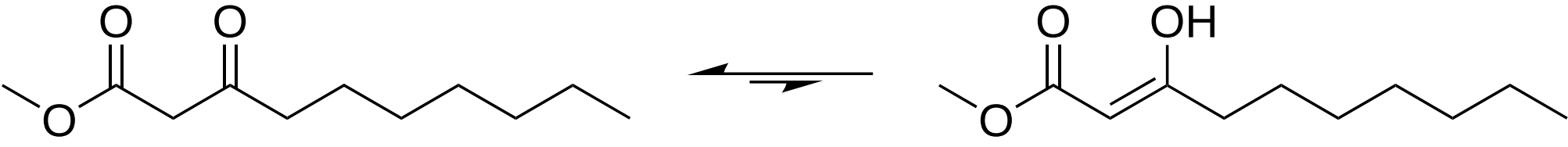

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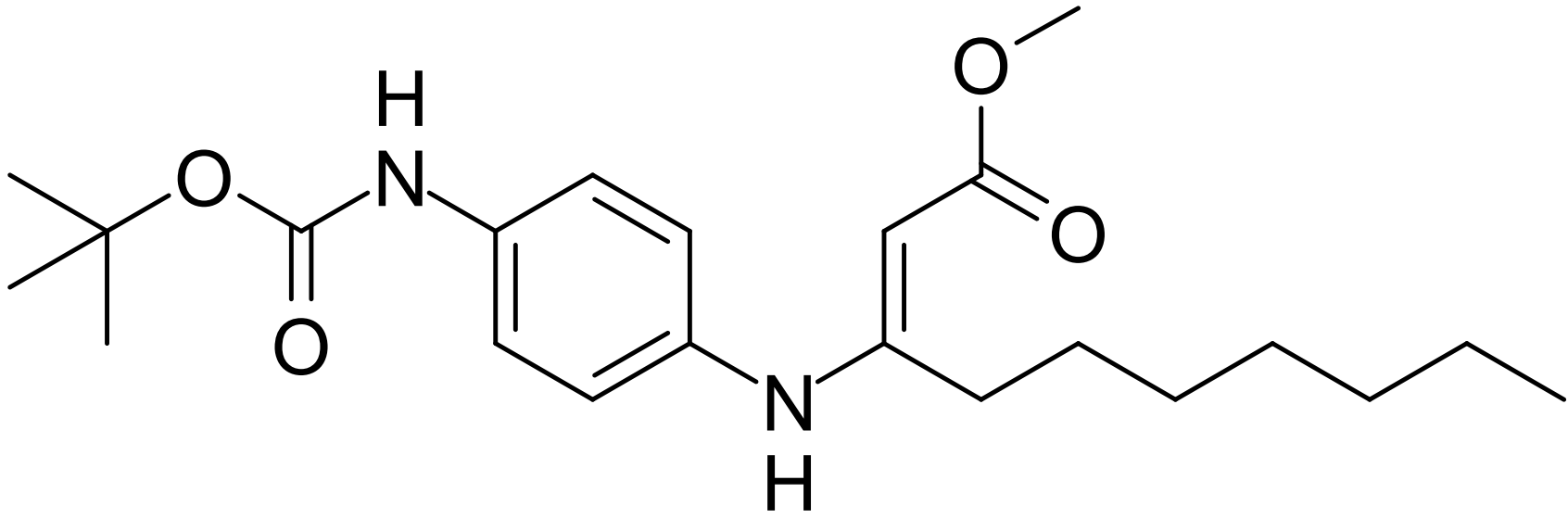
8 %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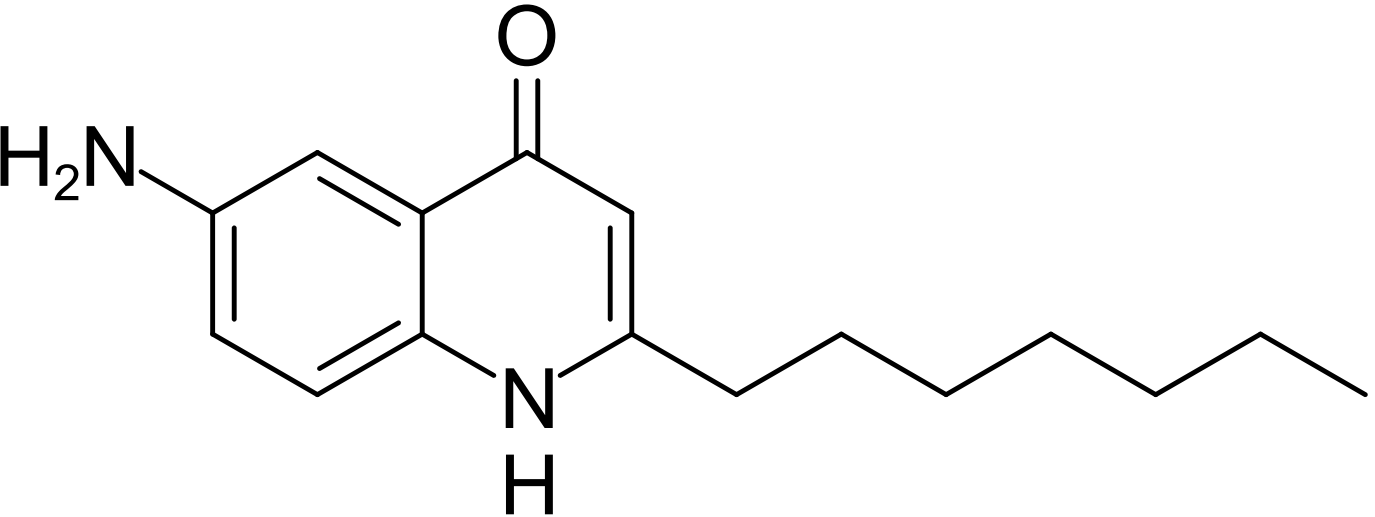
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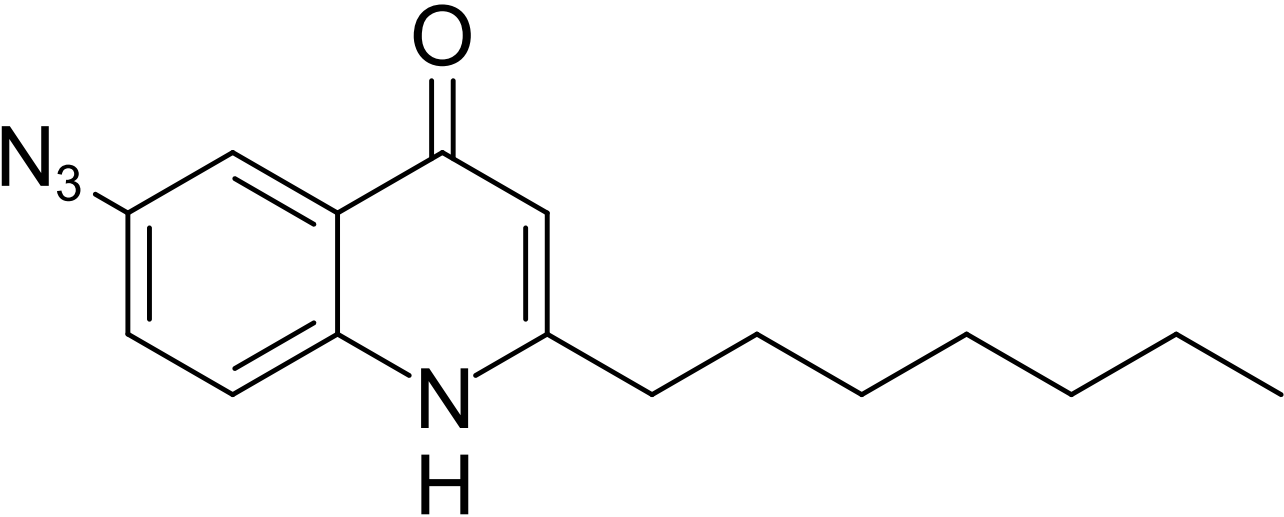
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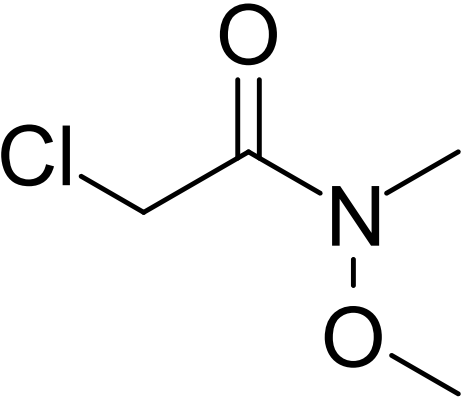
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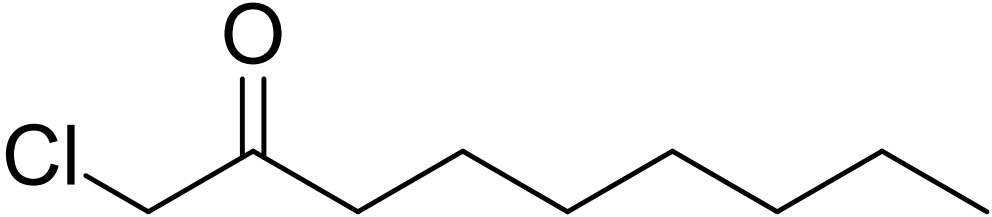
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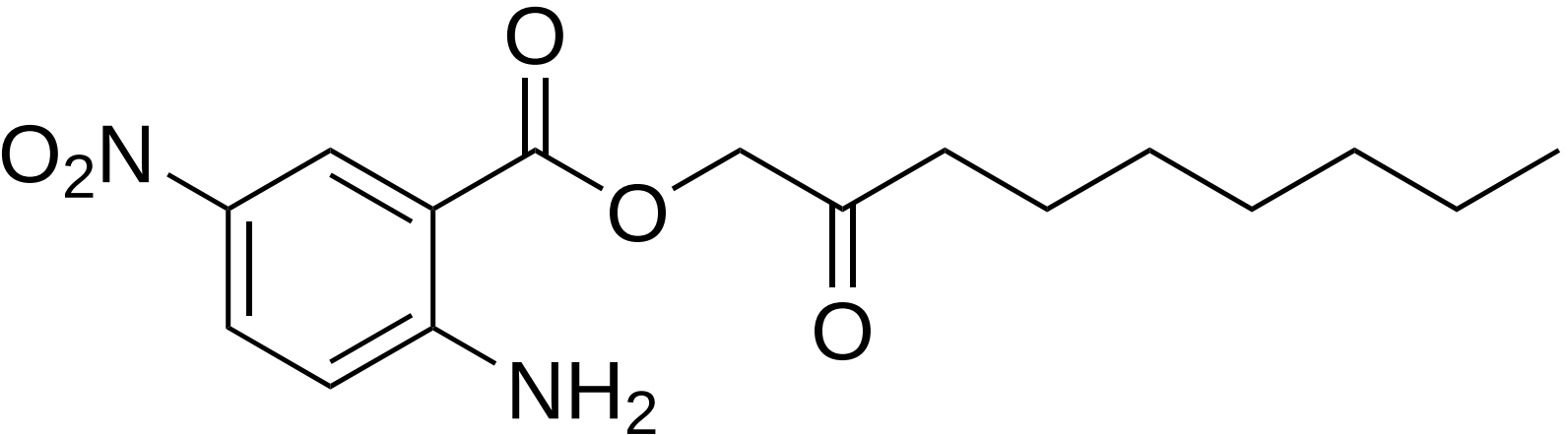
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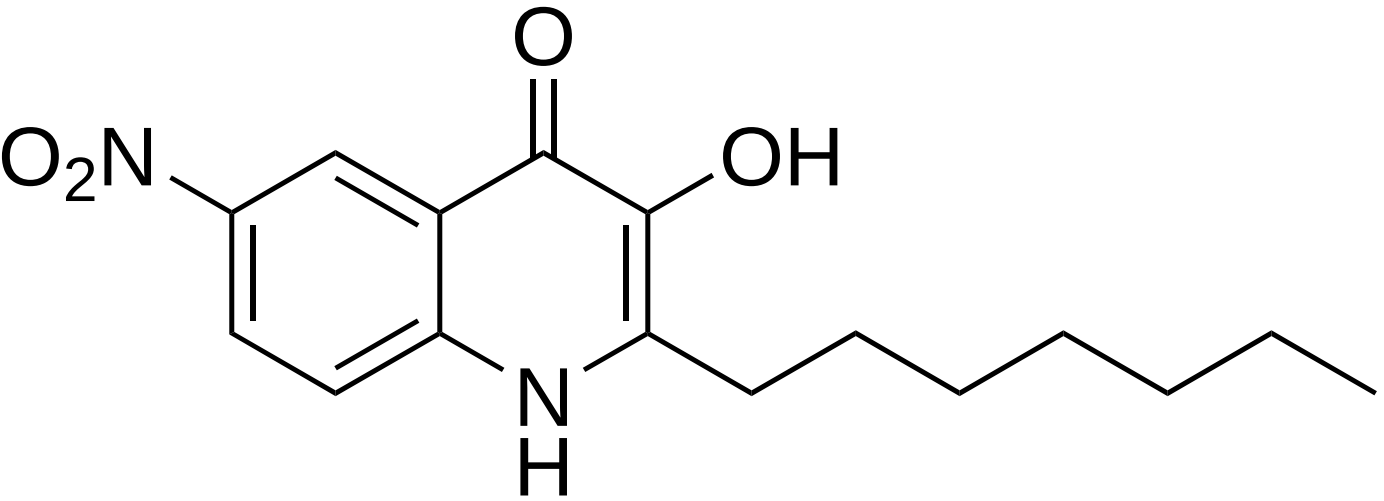
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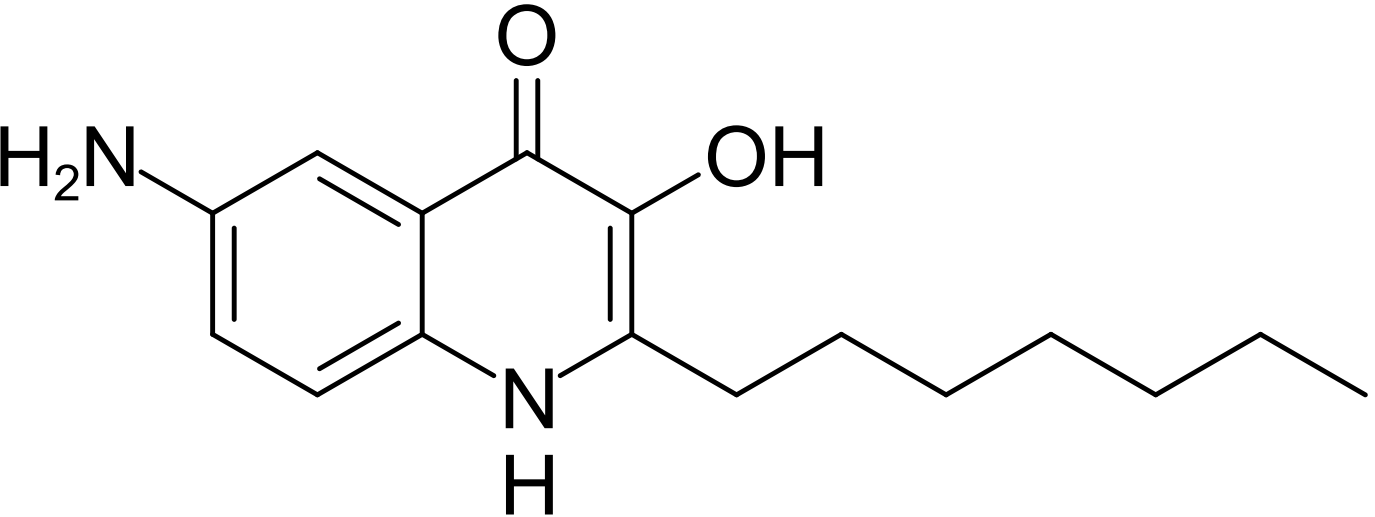
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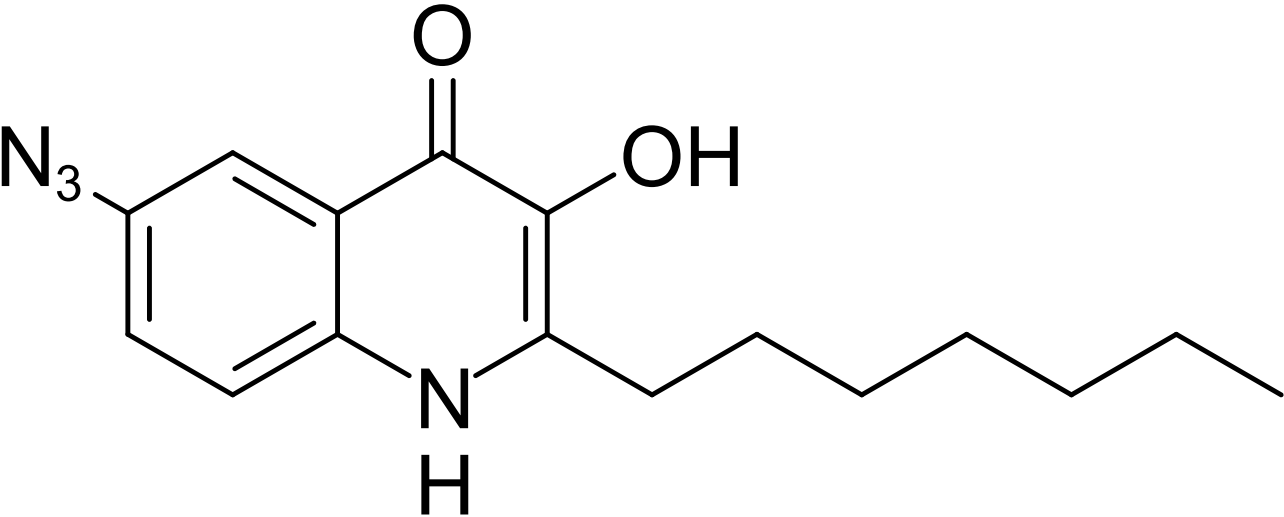
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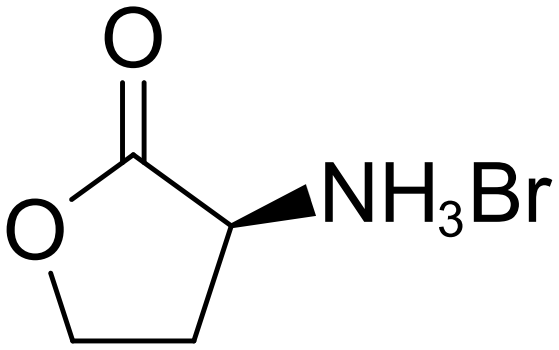
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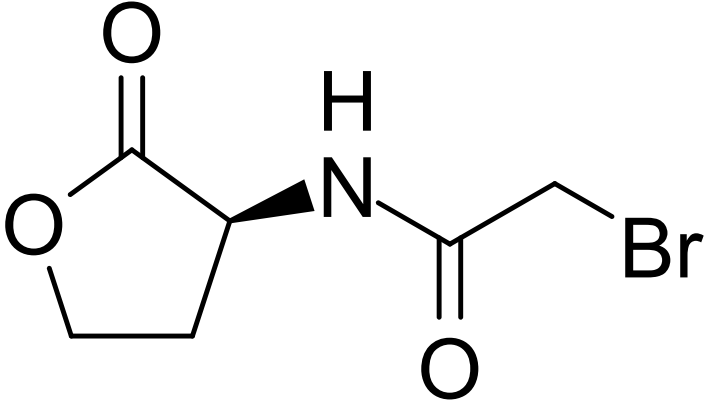
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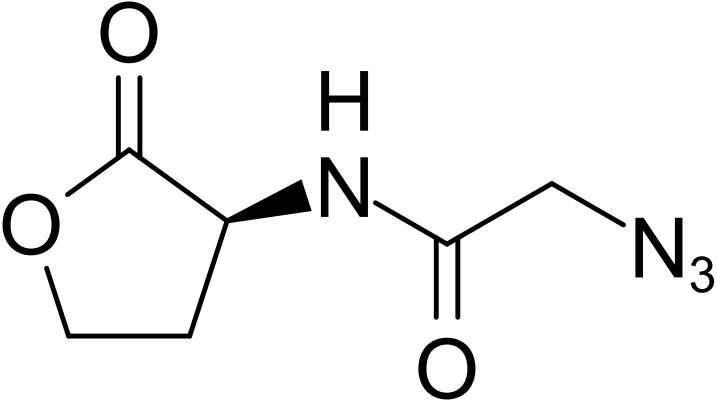
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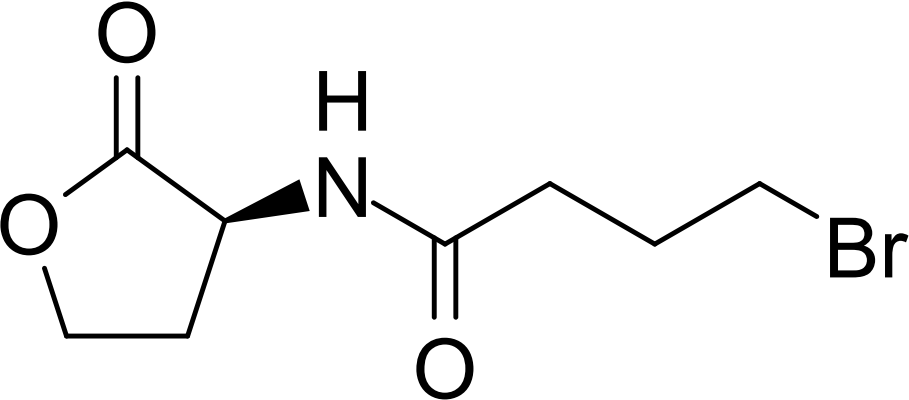
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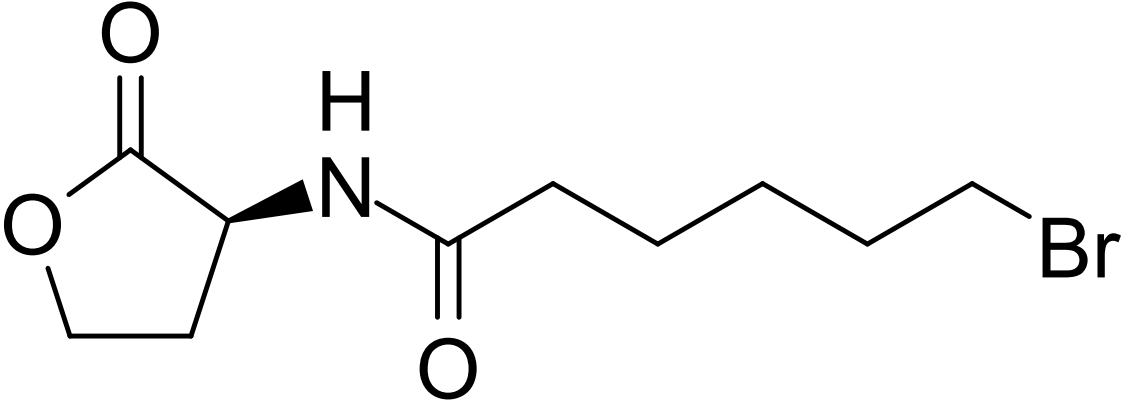
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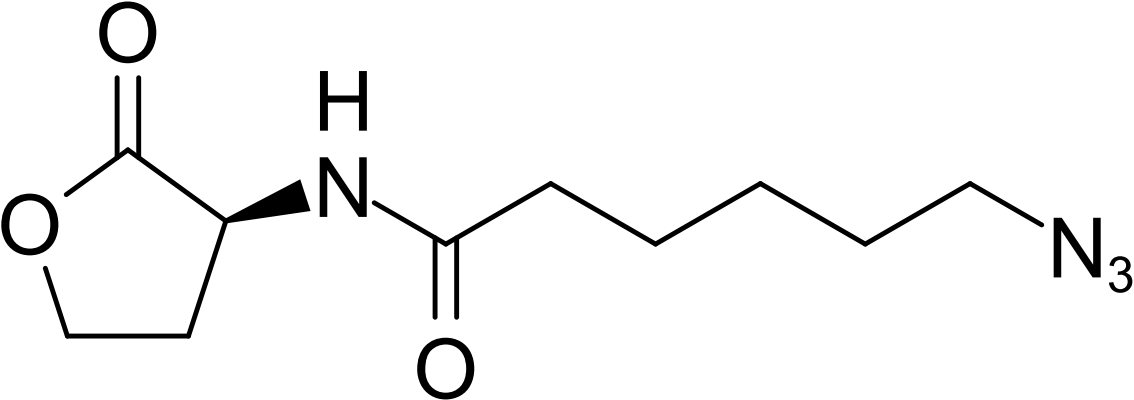
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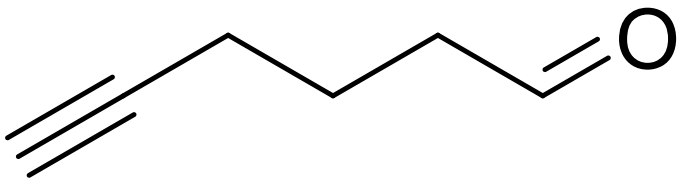
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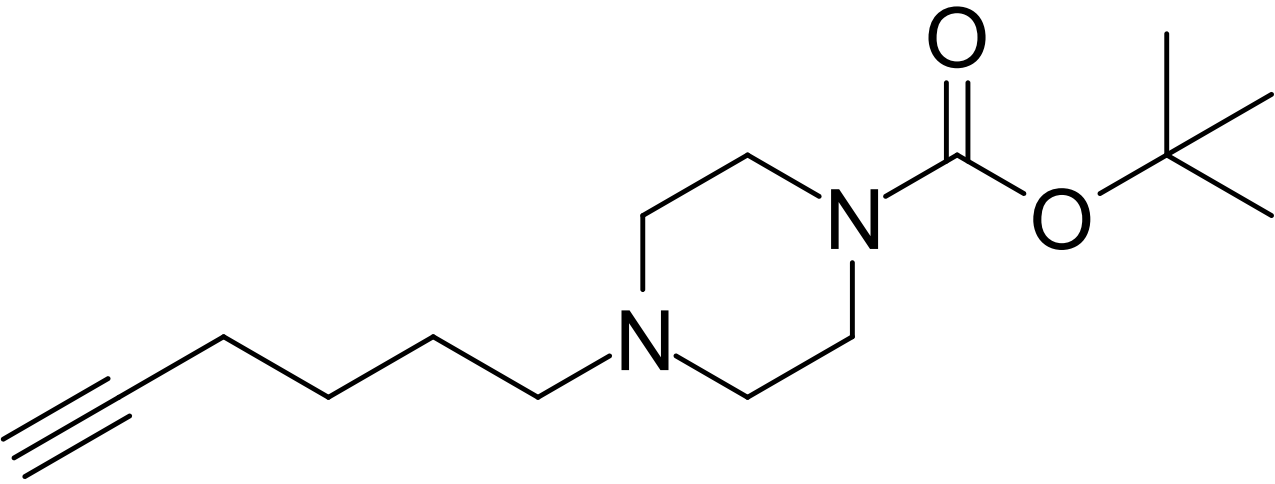
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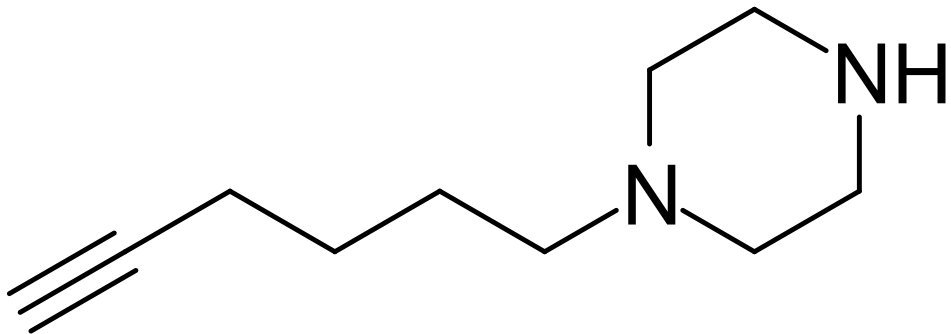
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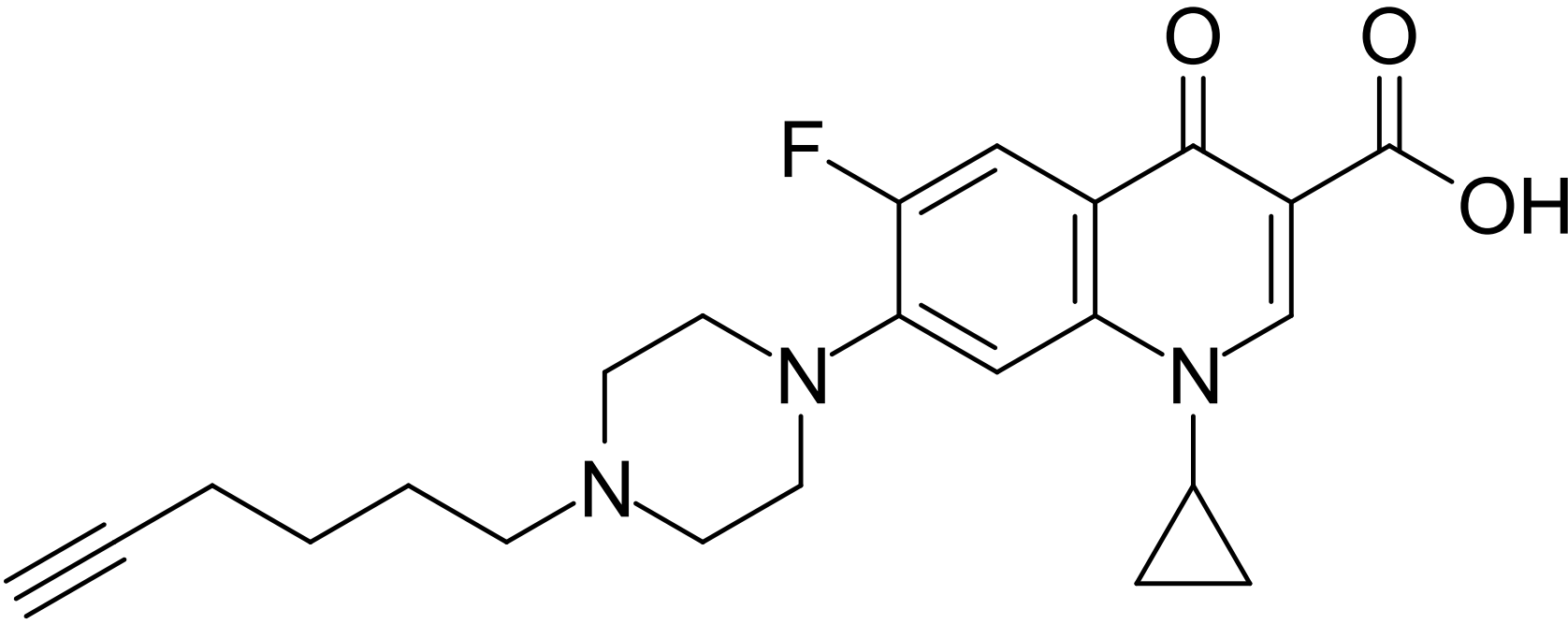
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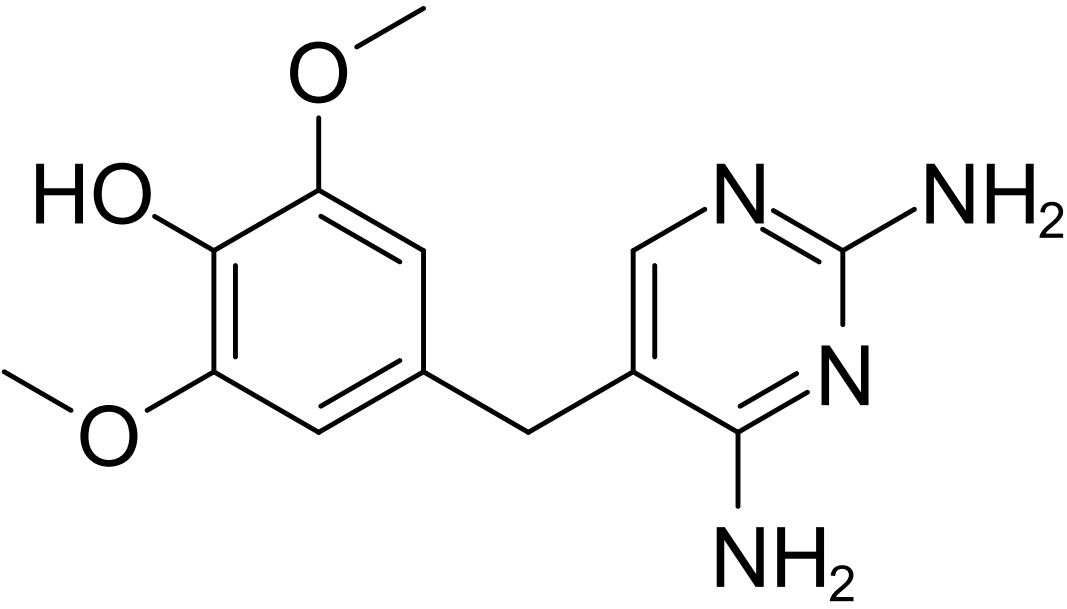
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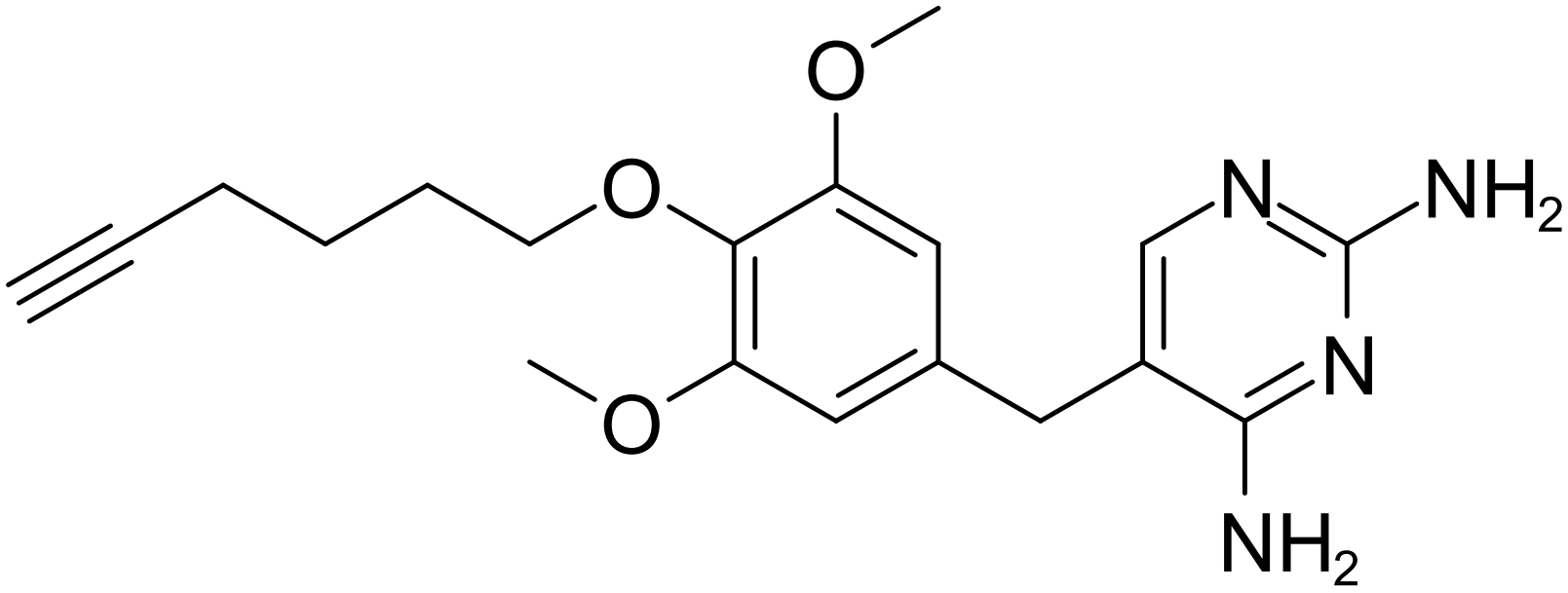
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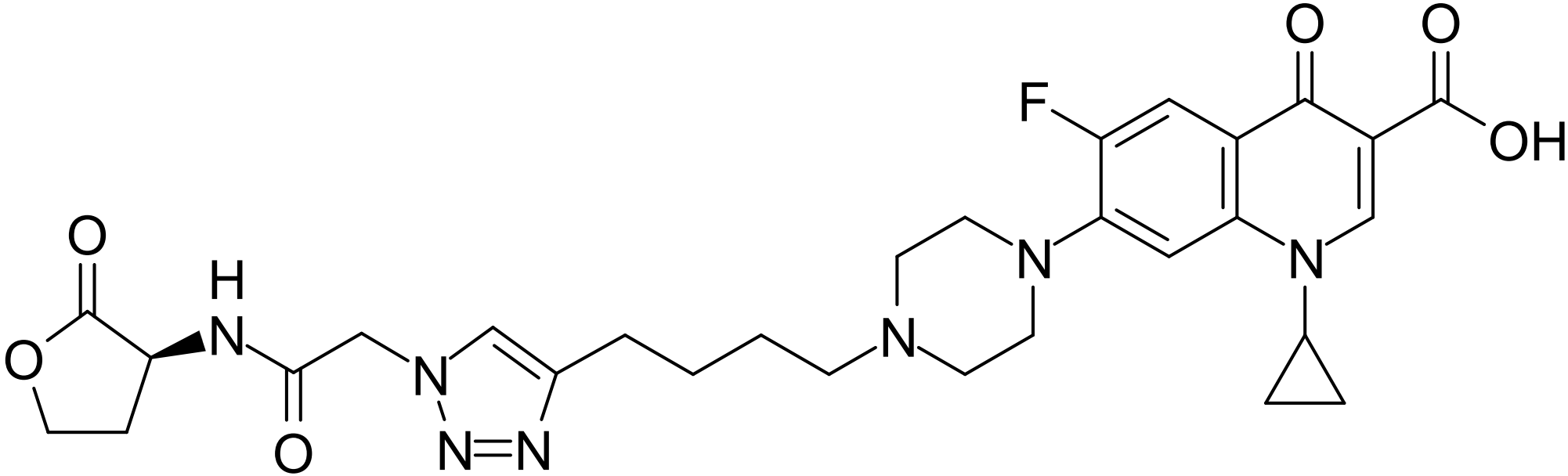
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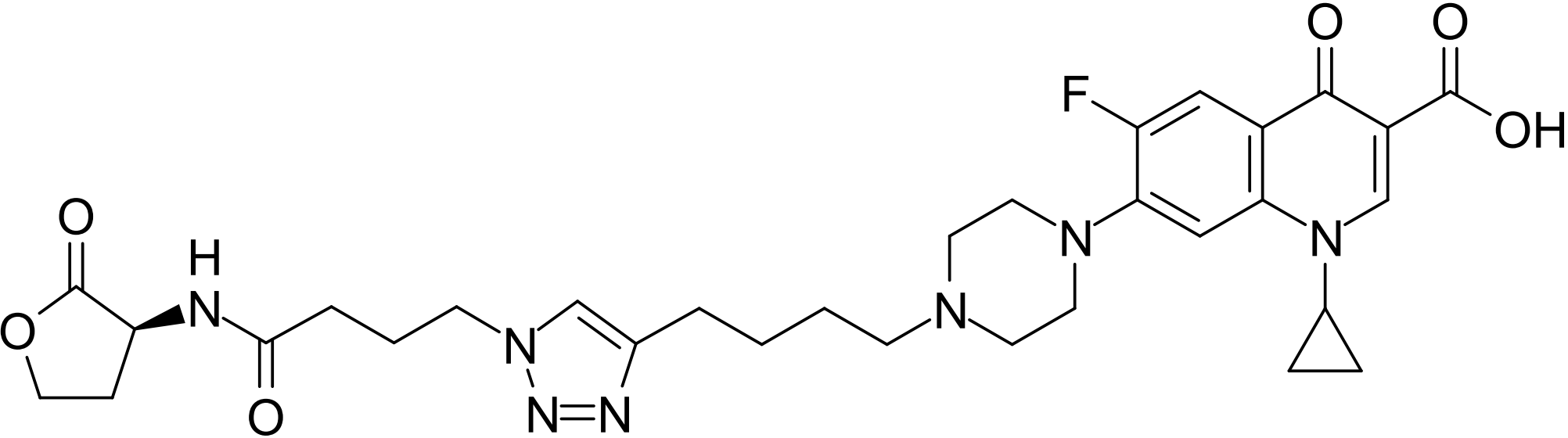
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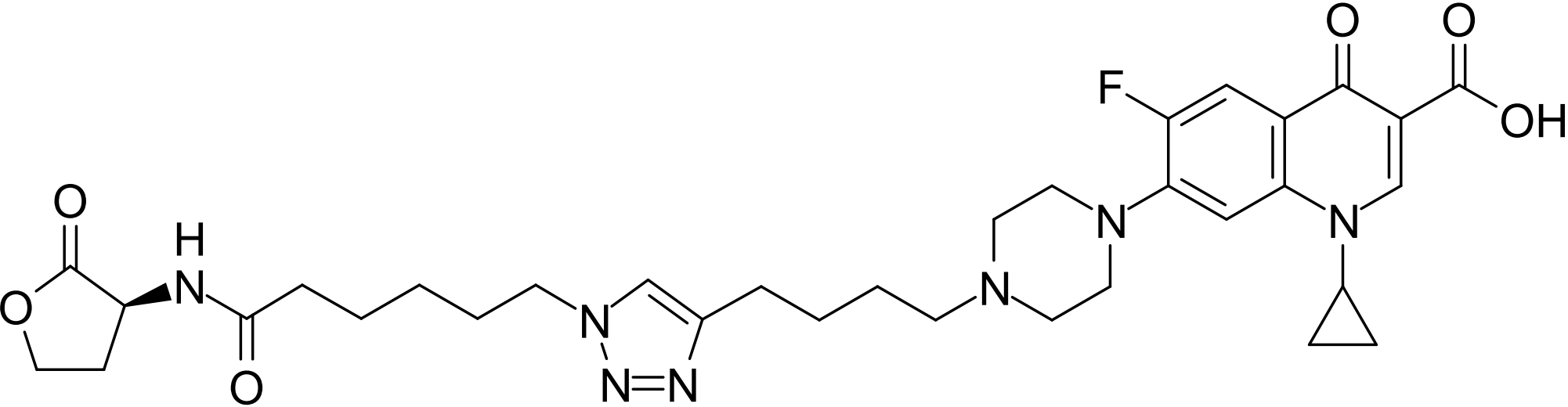

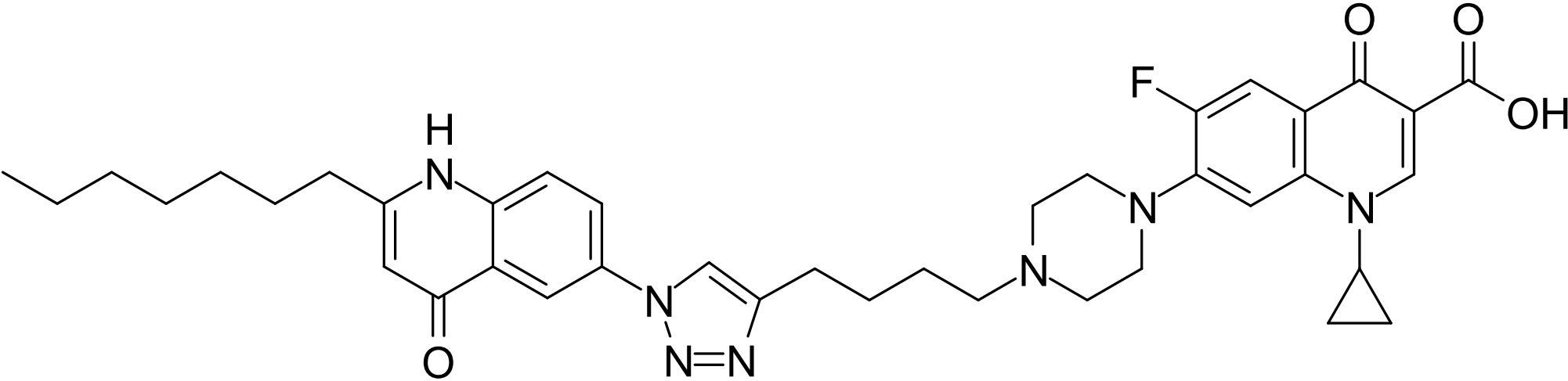
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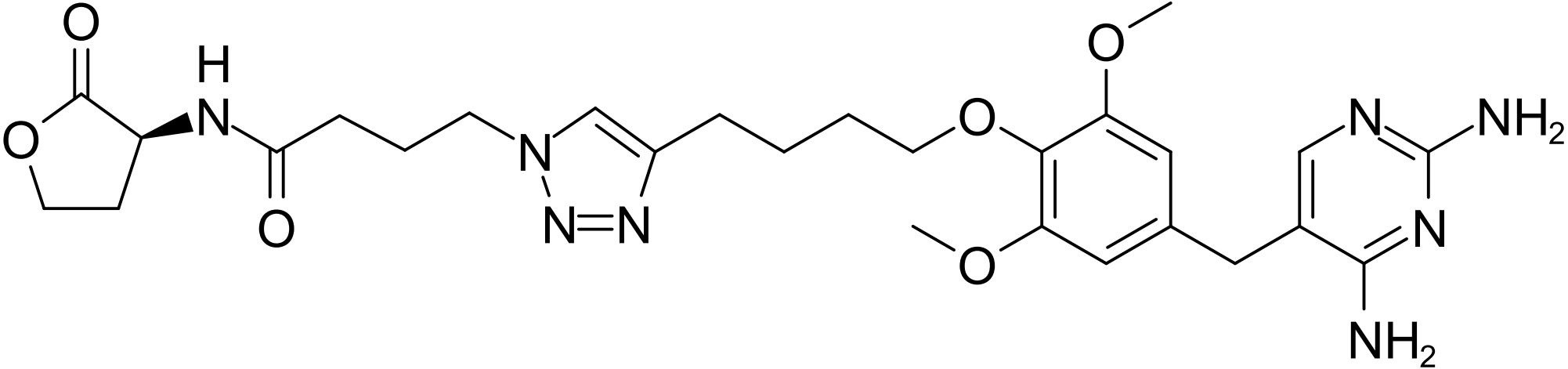

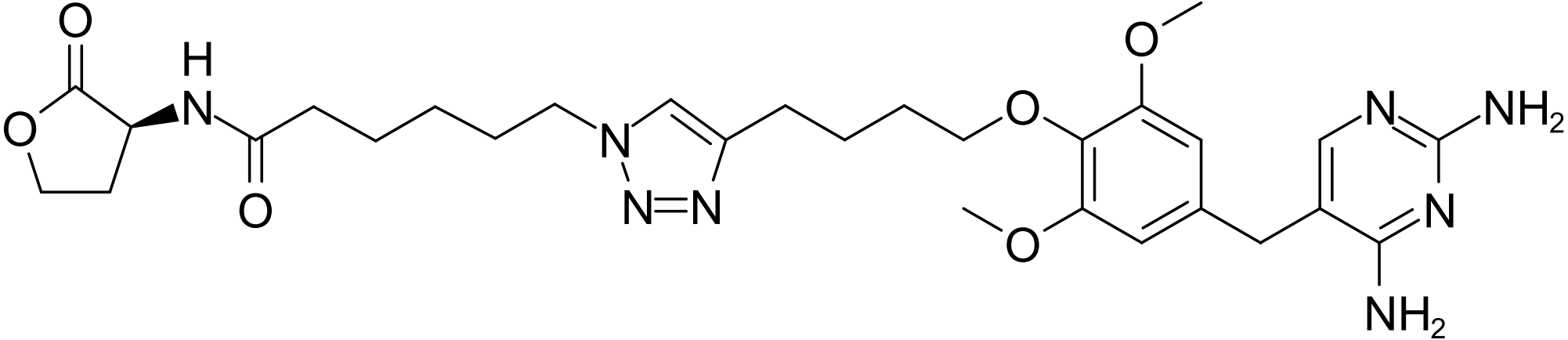

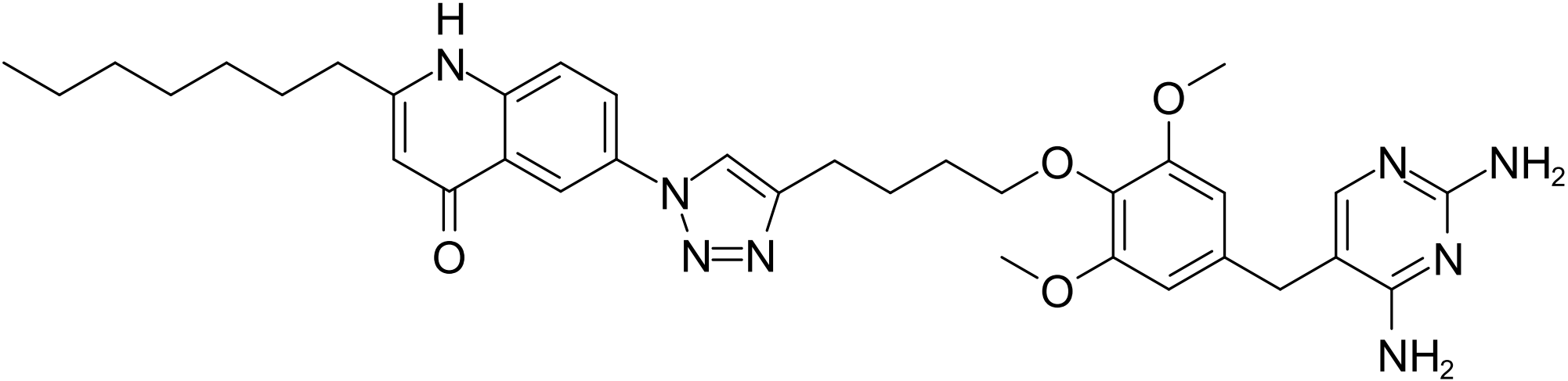

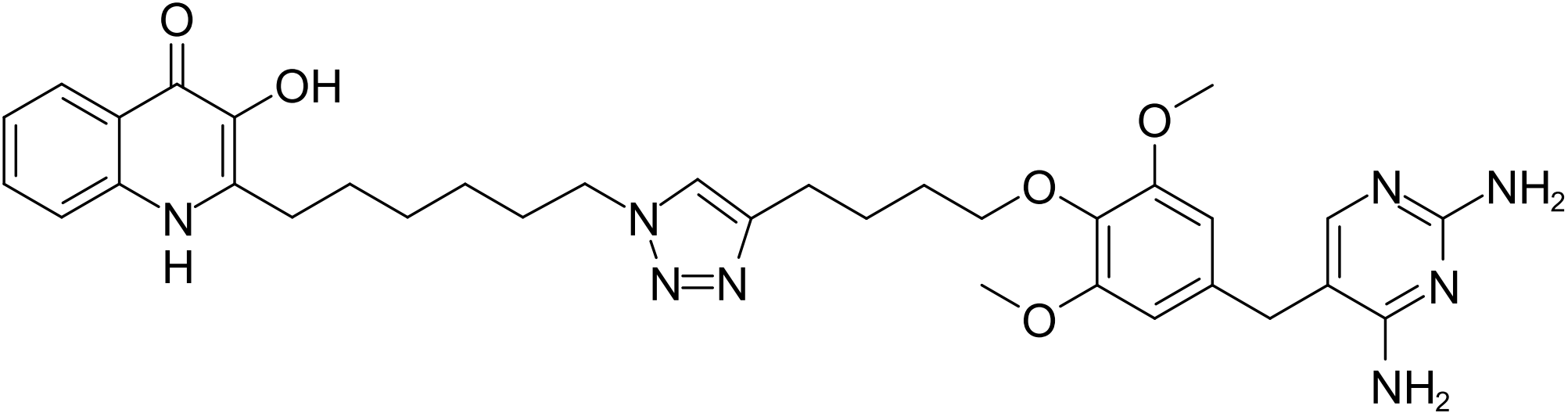
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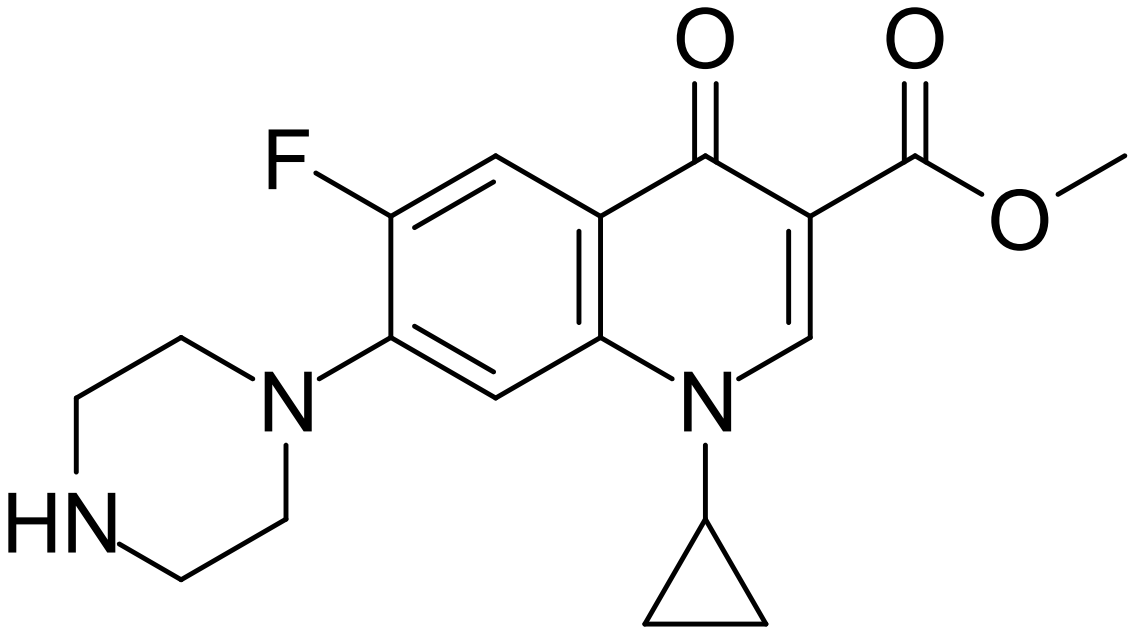
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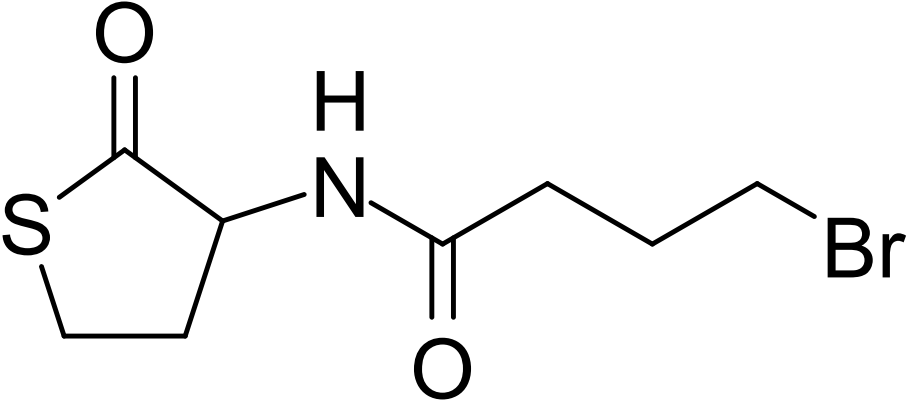
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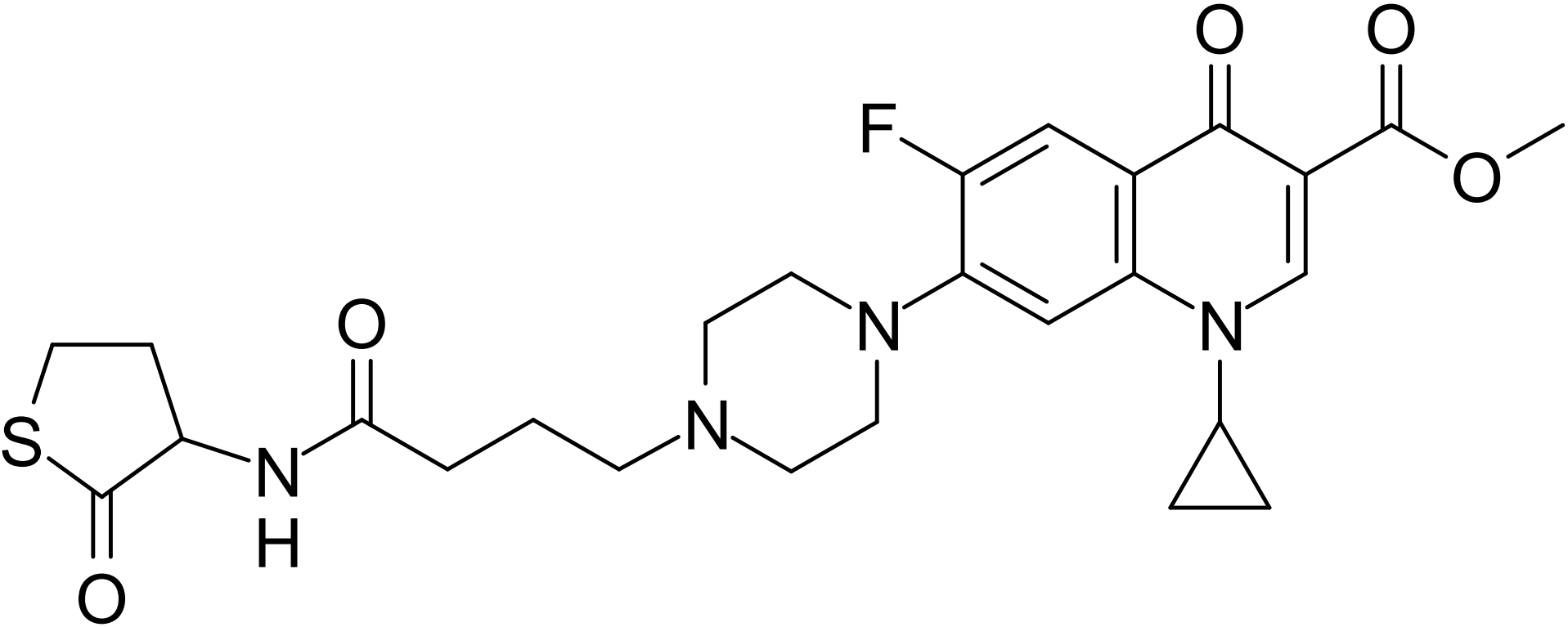
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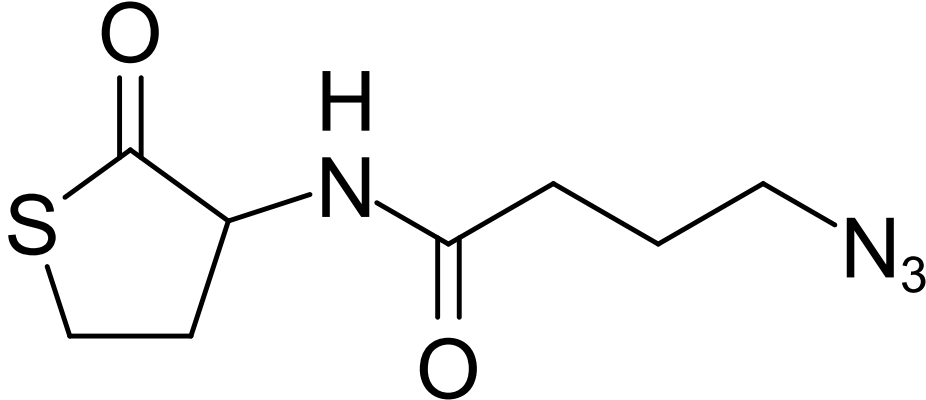
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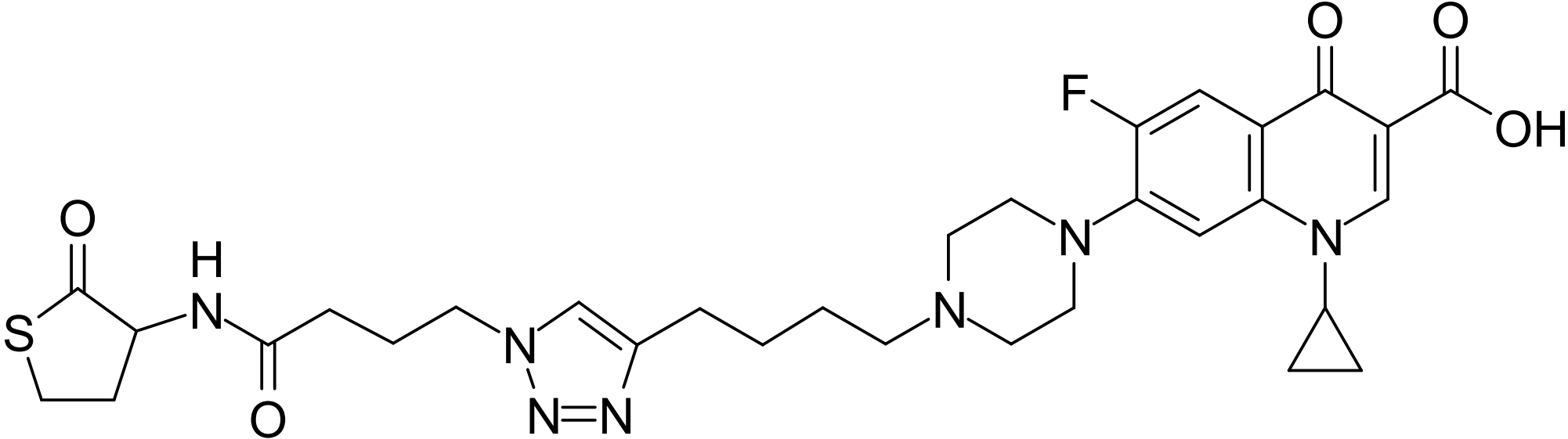
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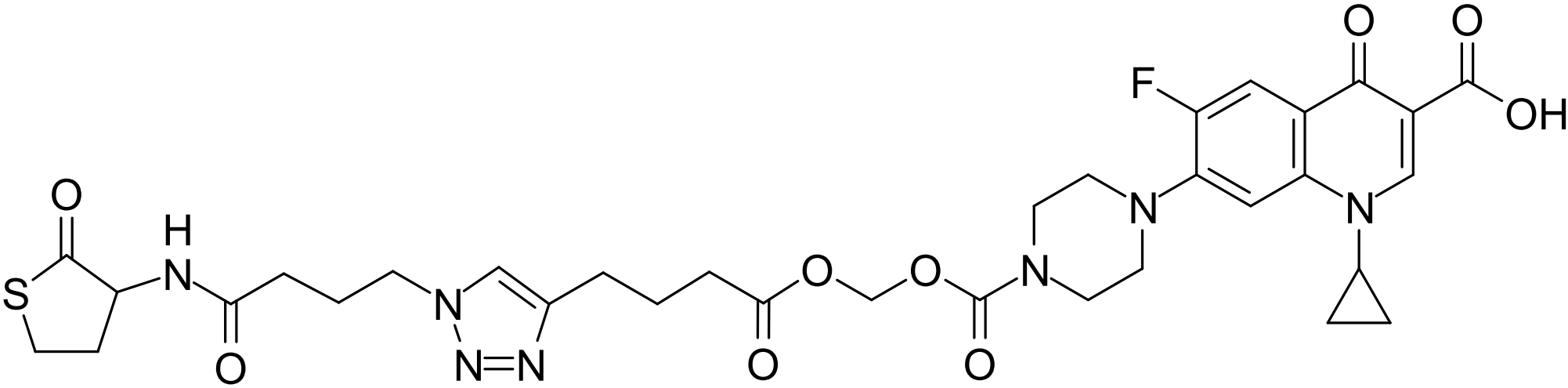
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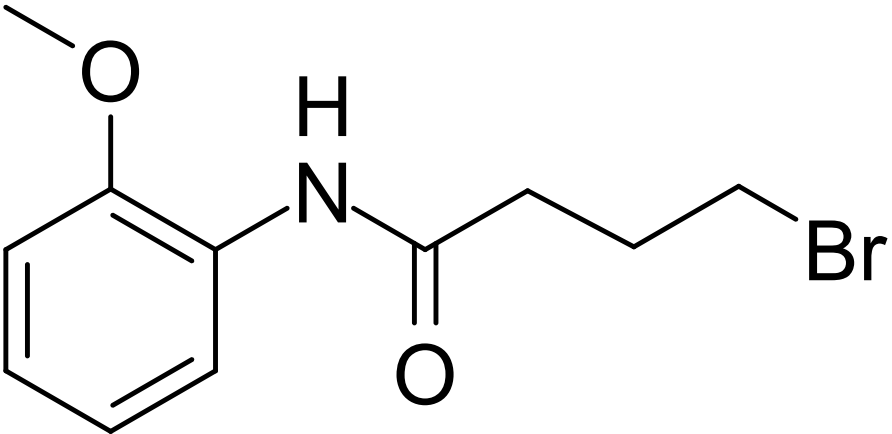
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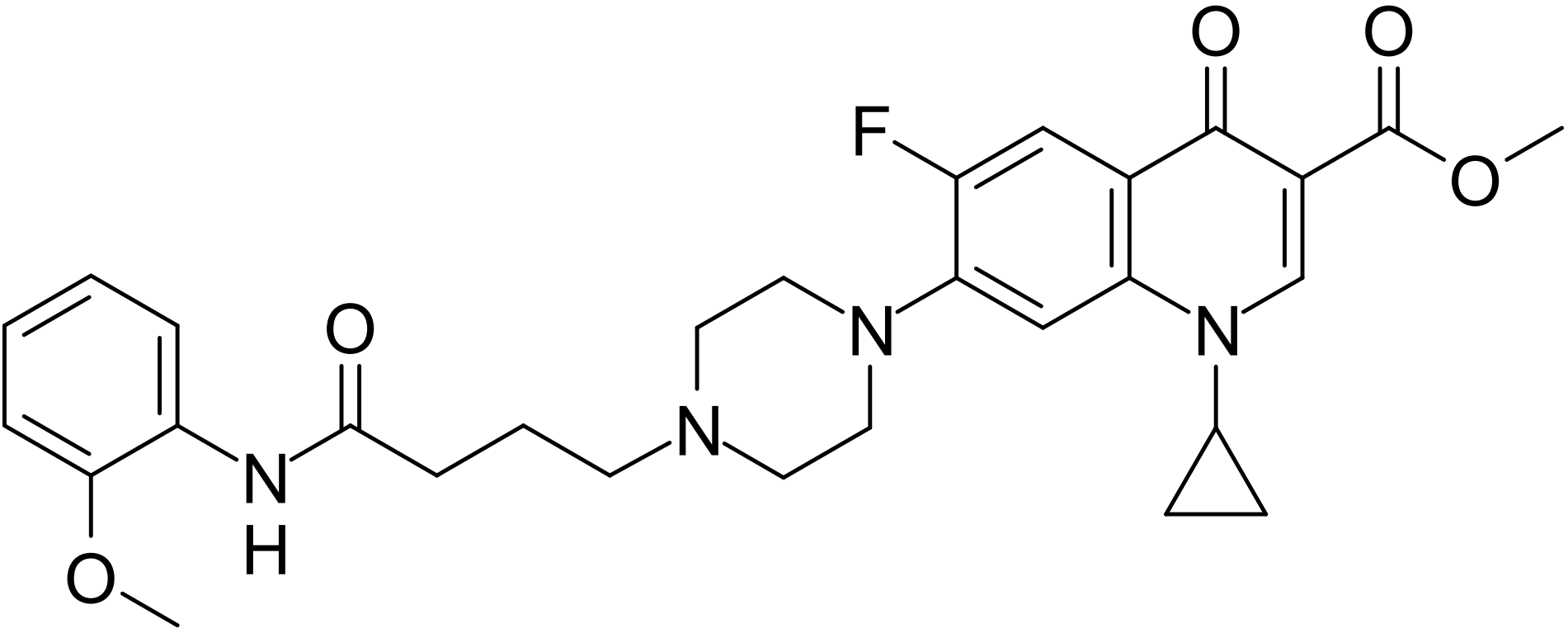
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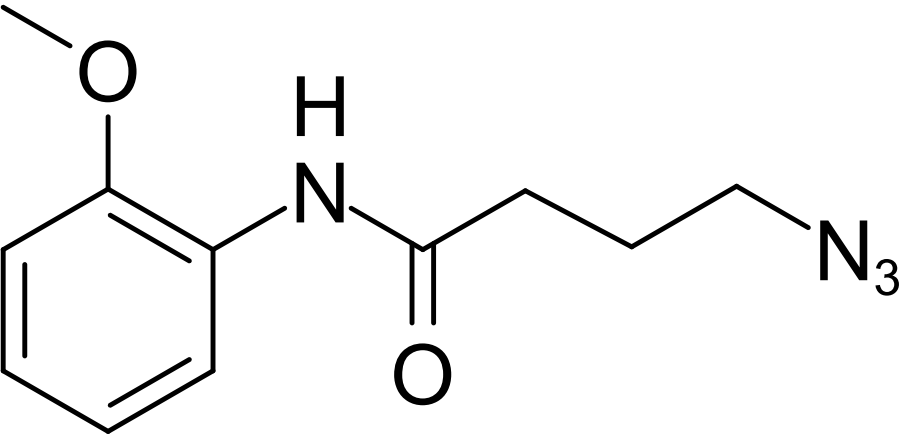
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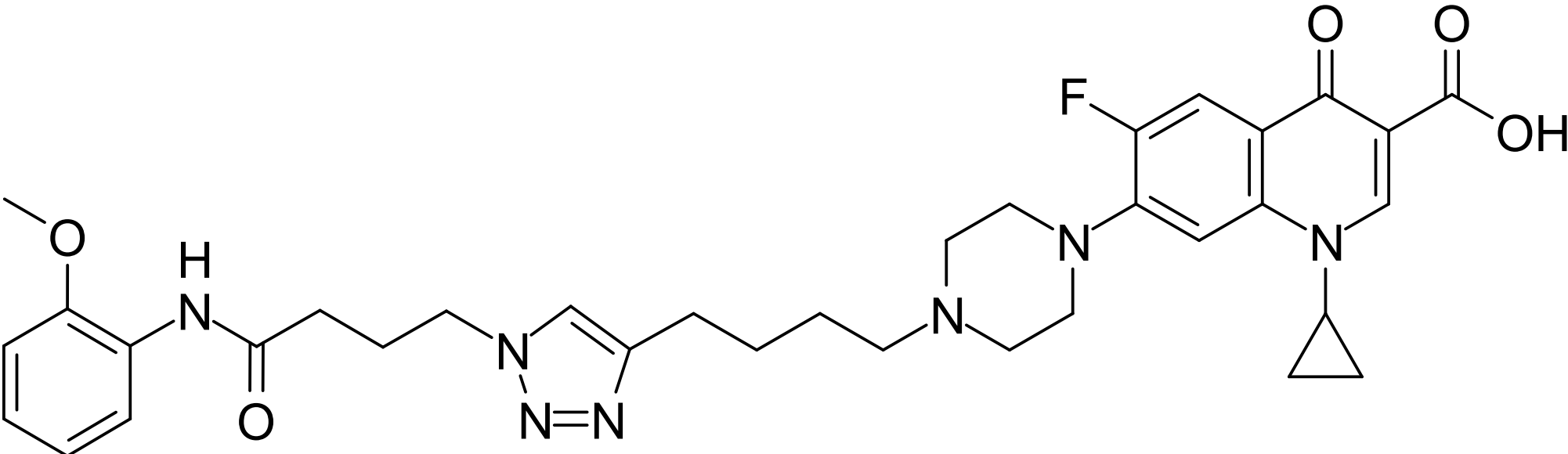
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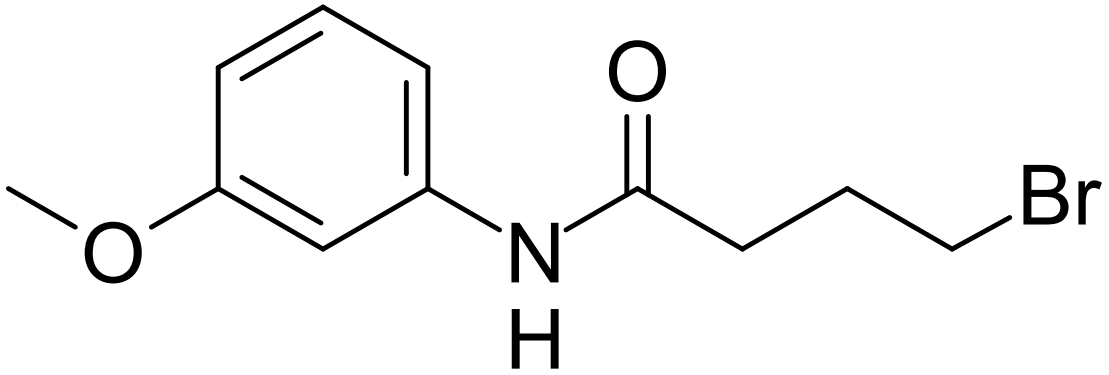
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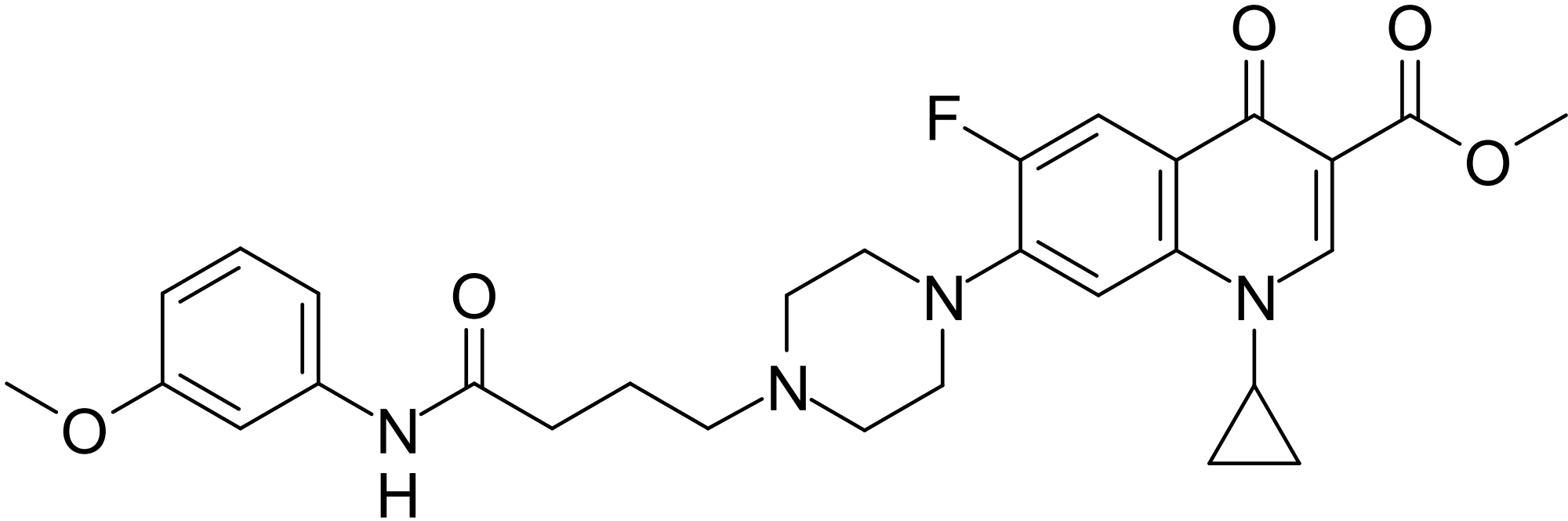

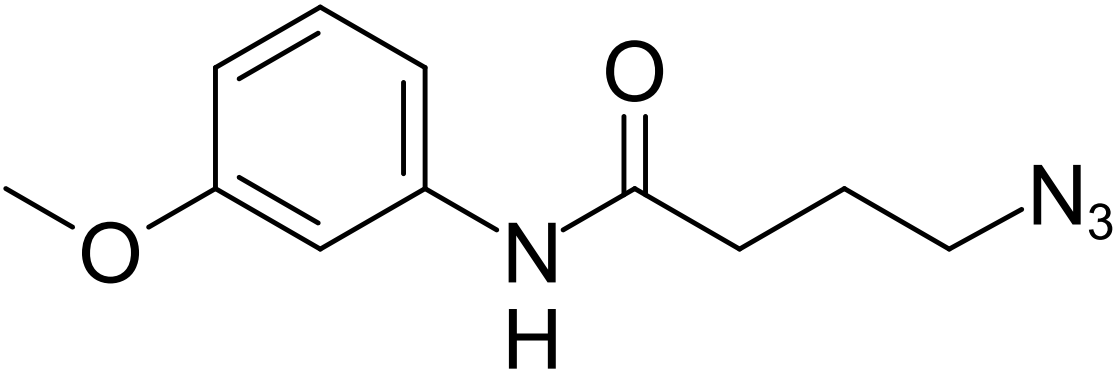
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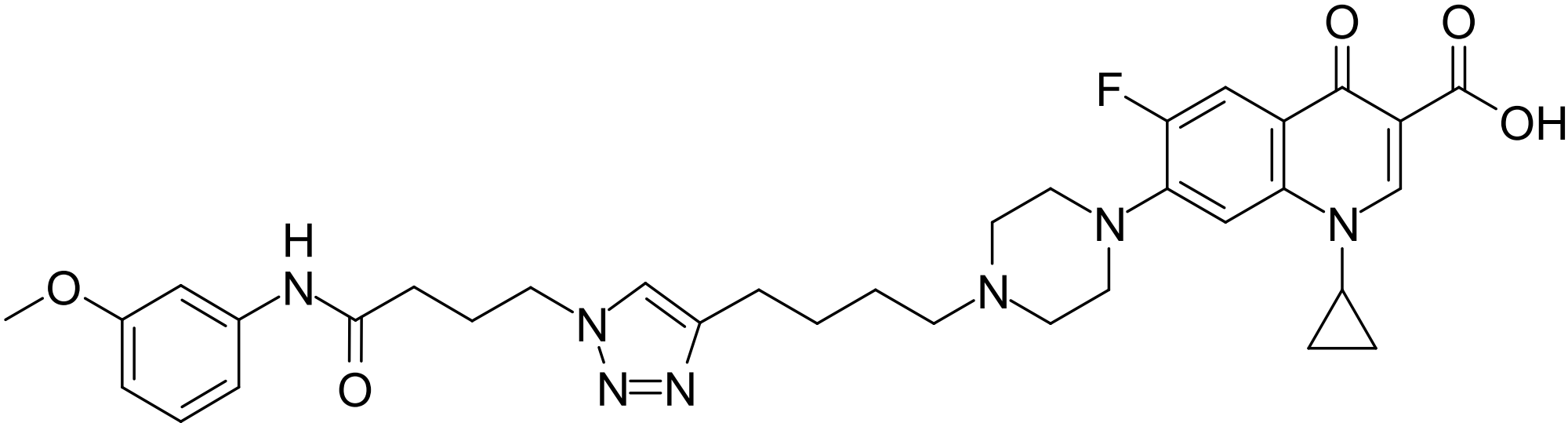
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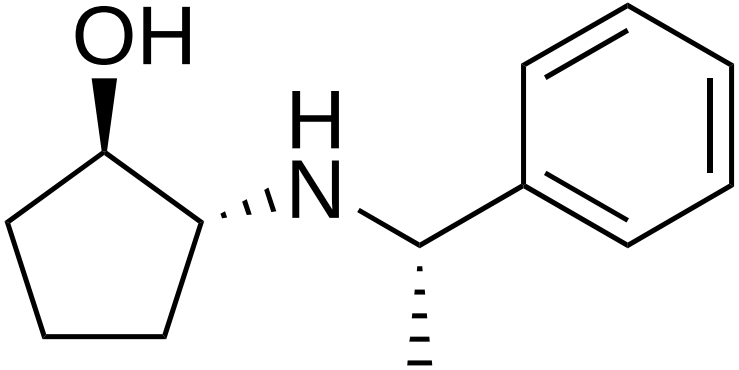

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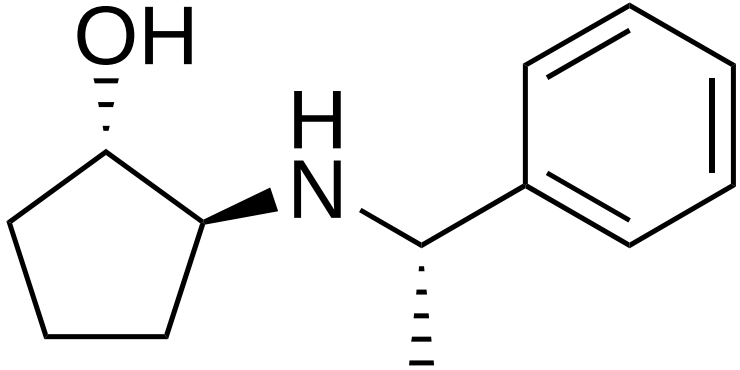

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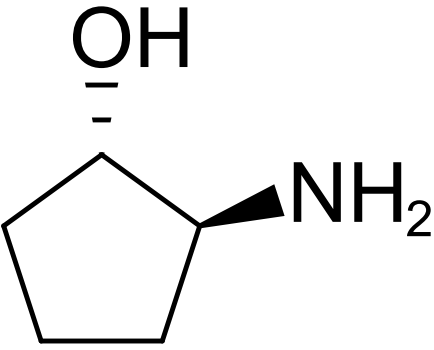
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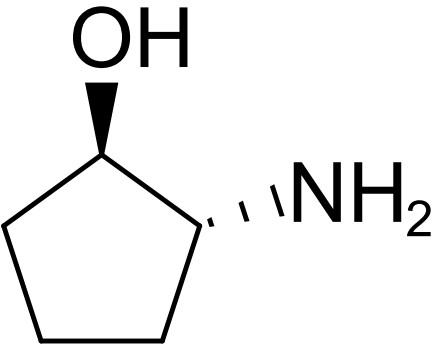
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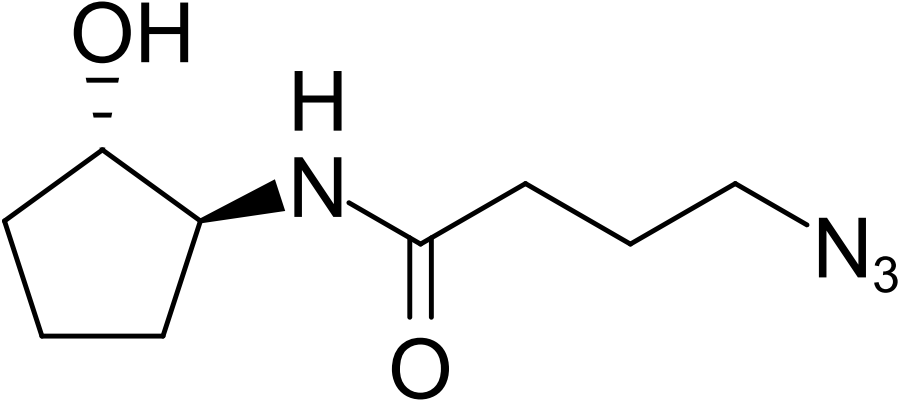
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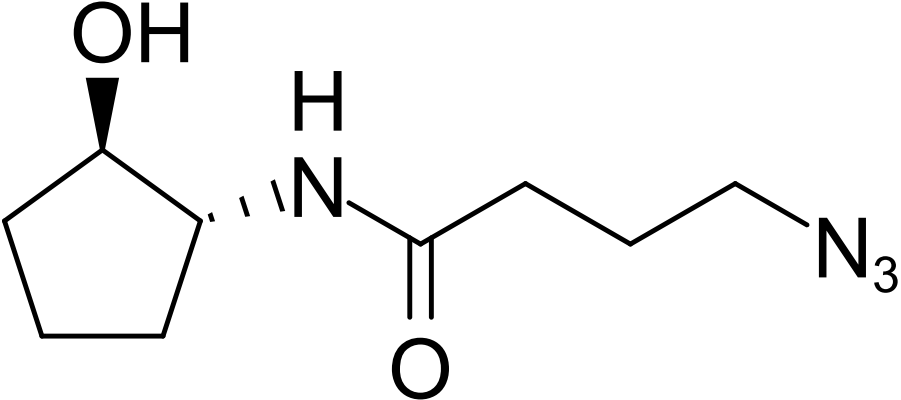
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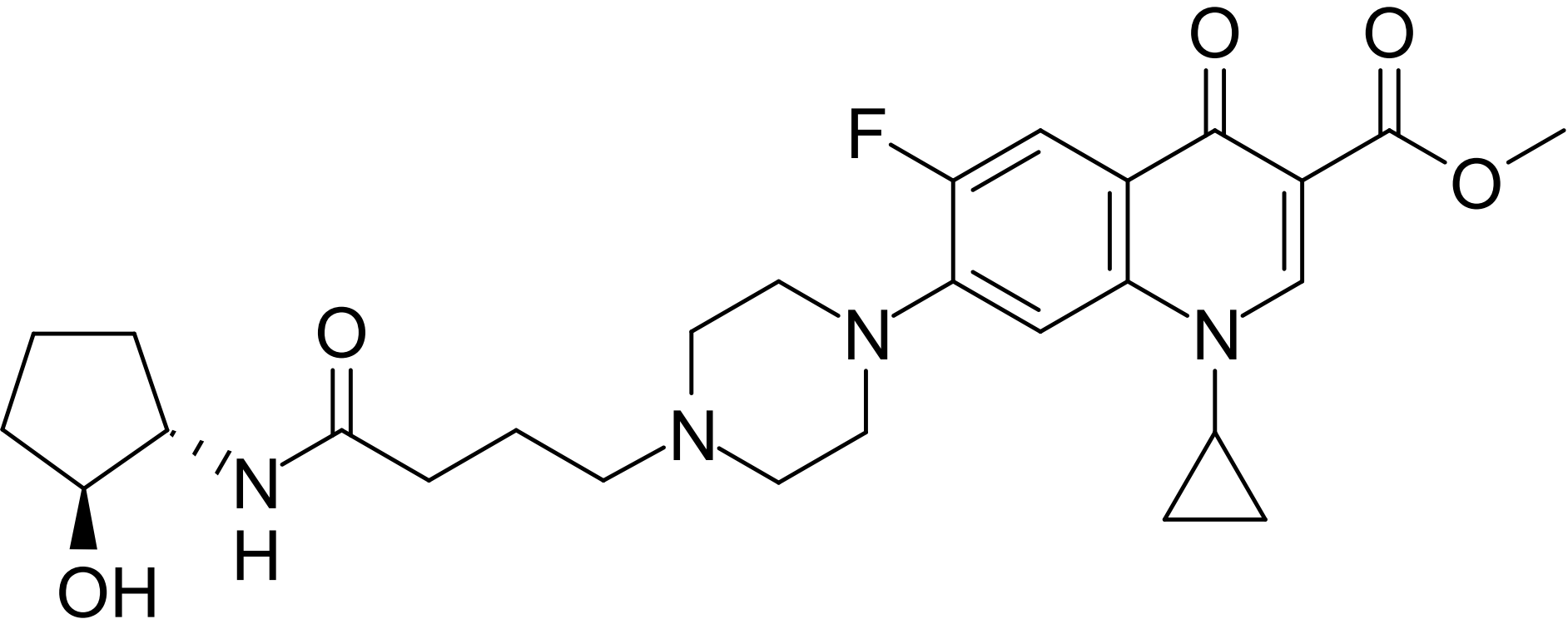
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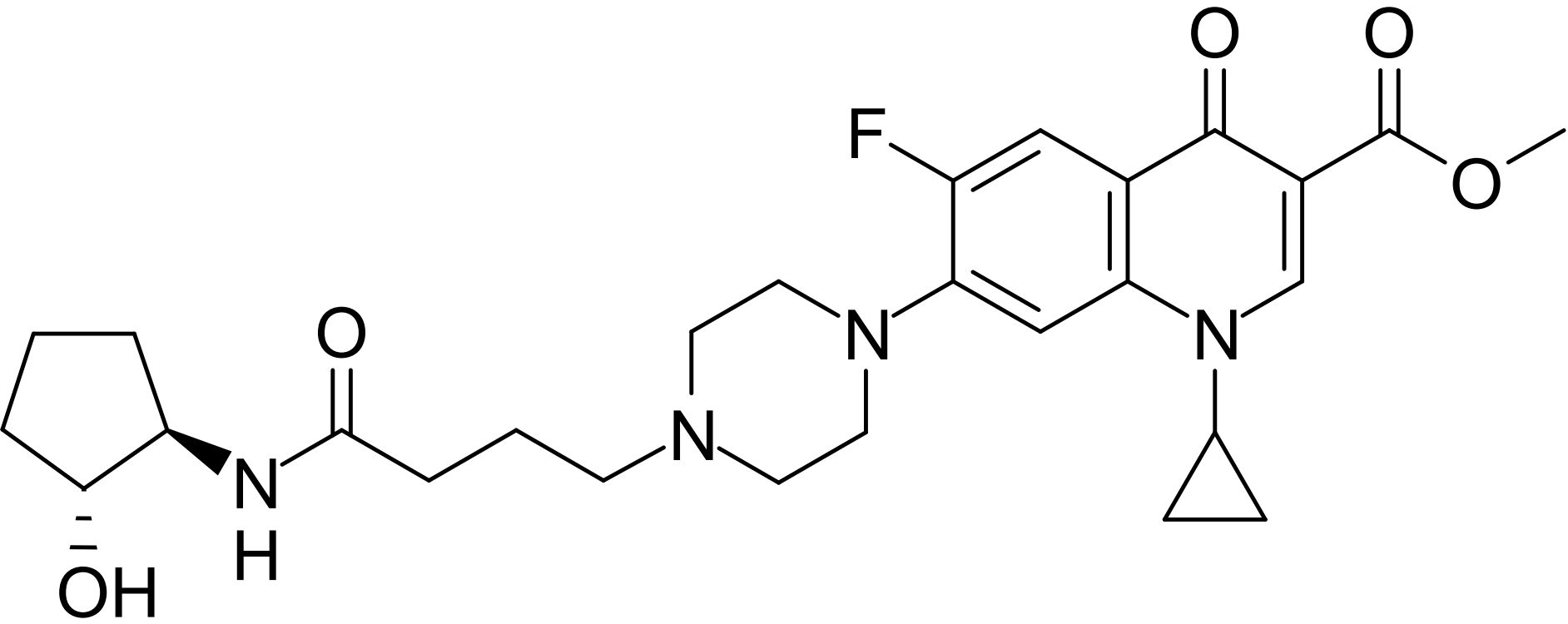
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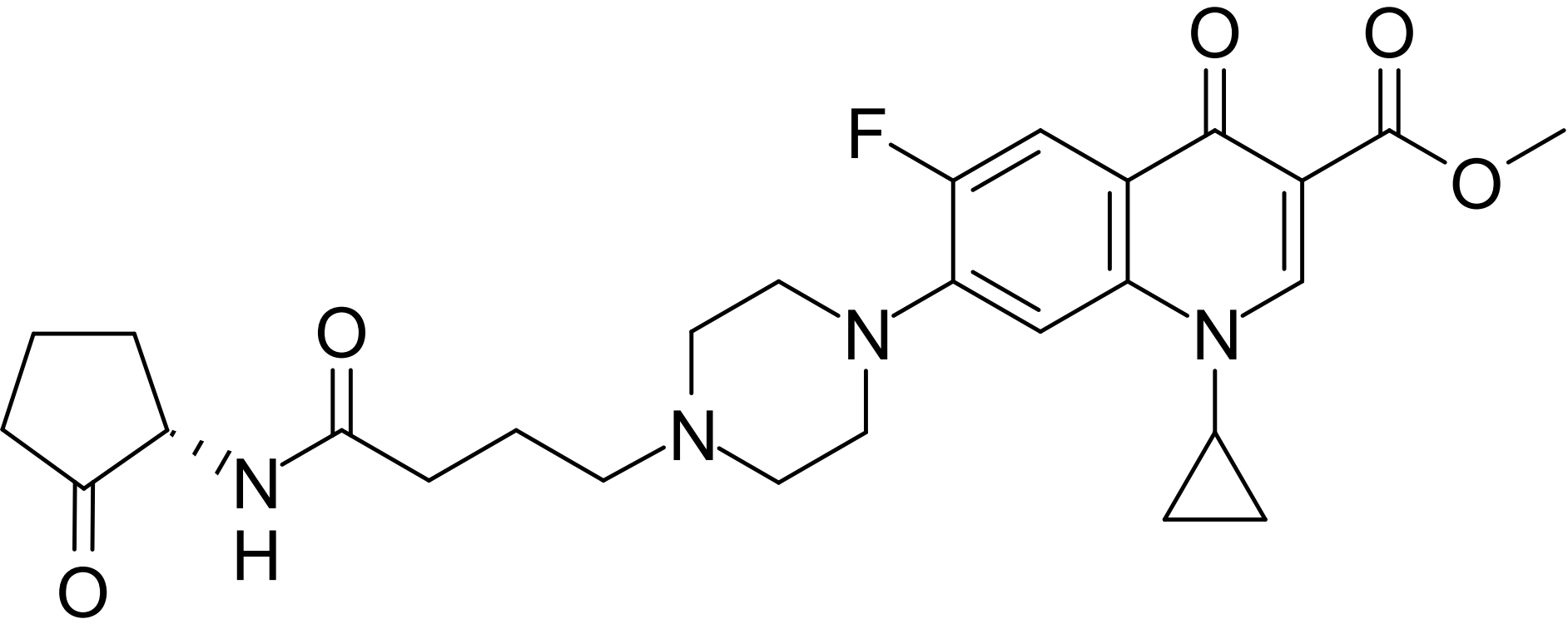
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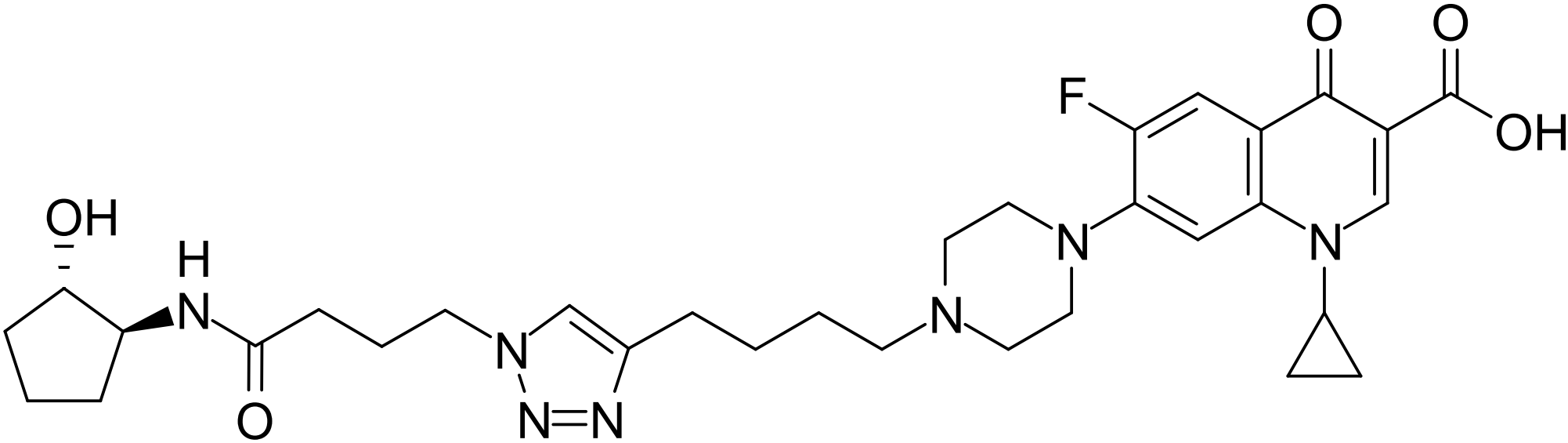
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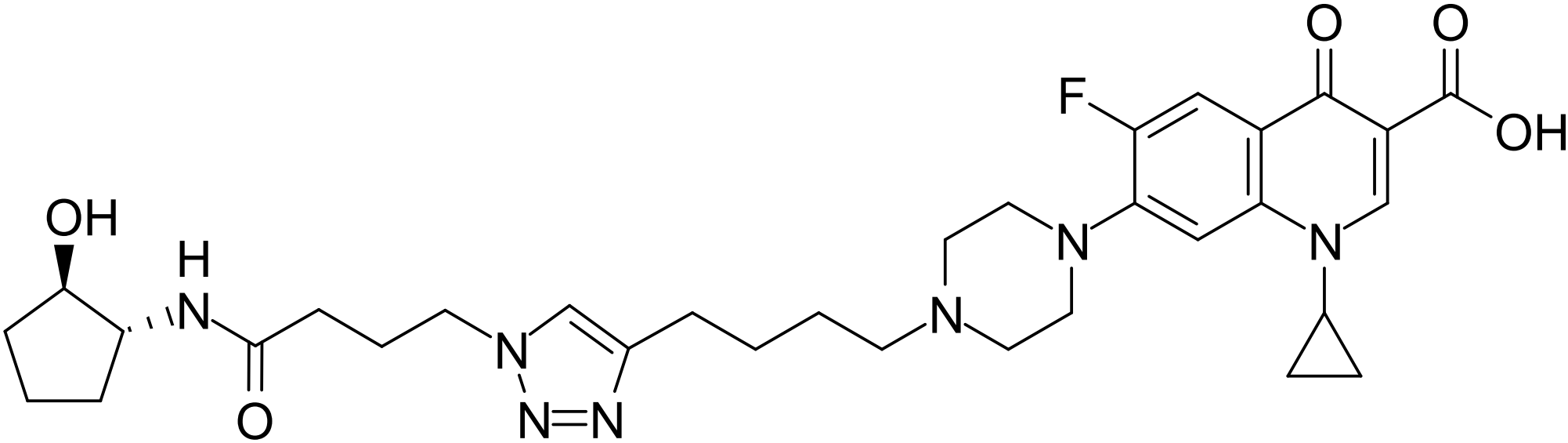
OH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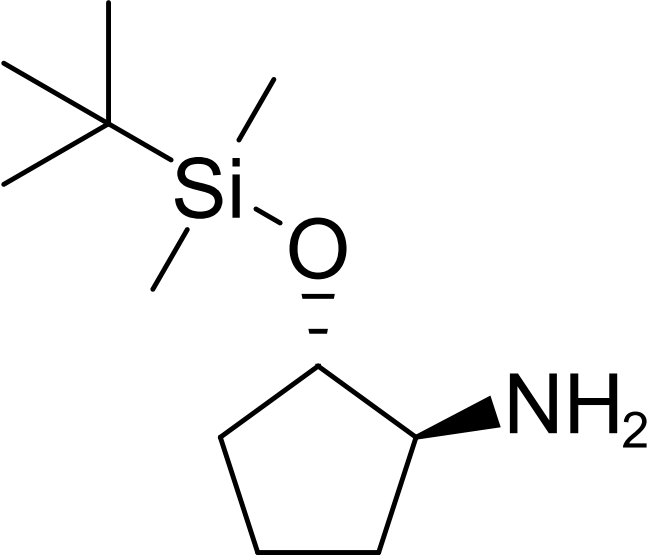
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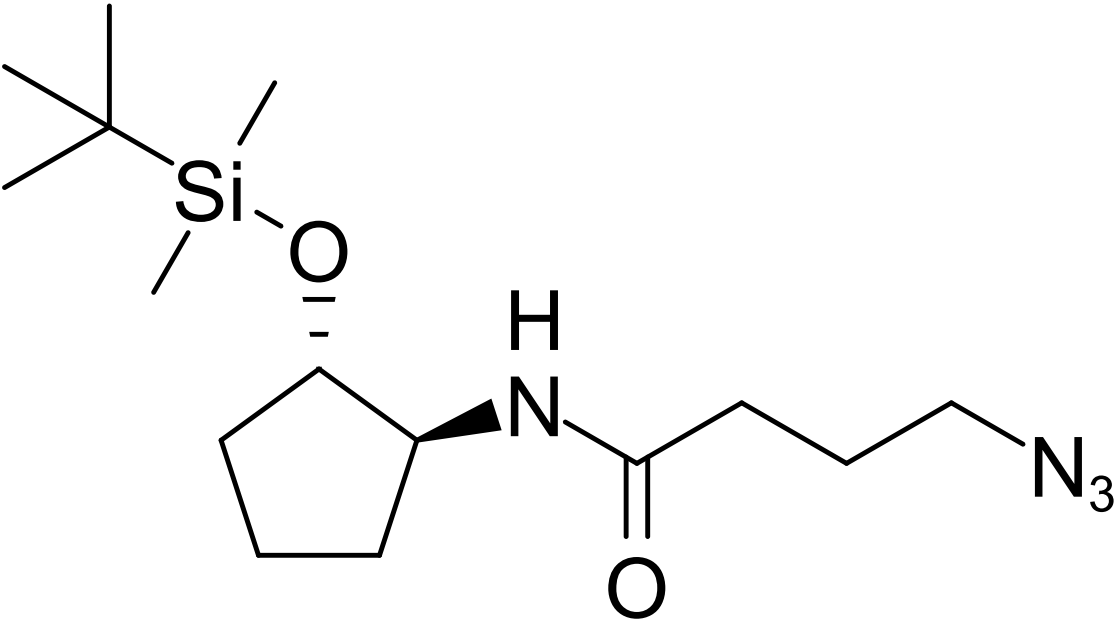
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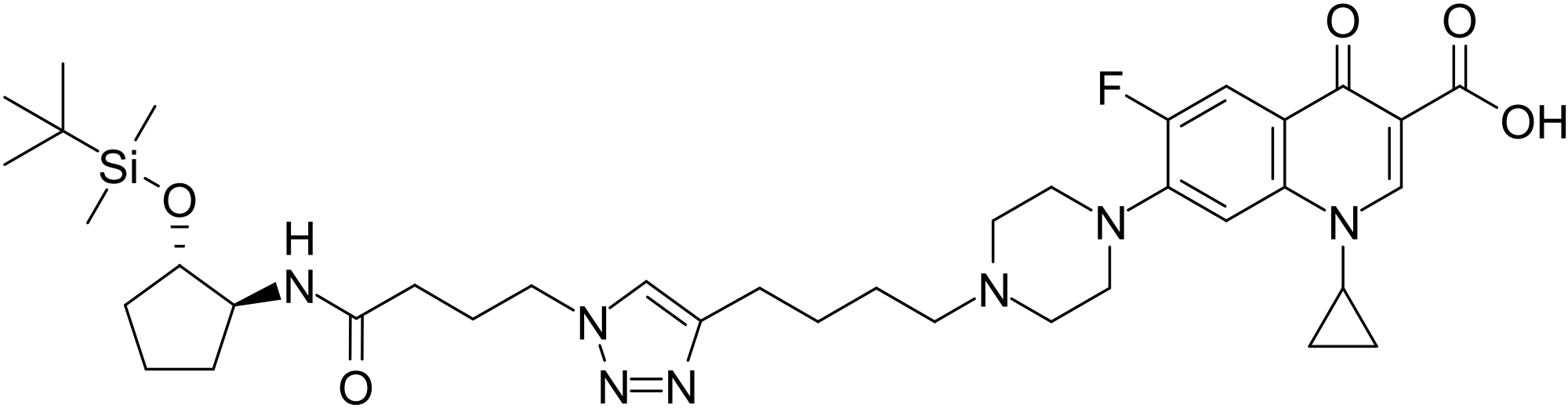
N
O
N3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F
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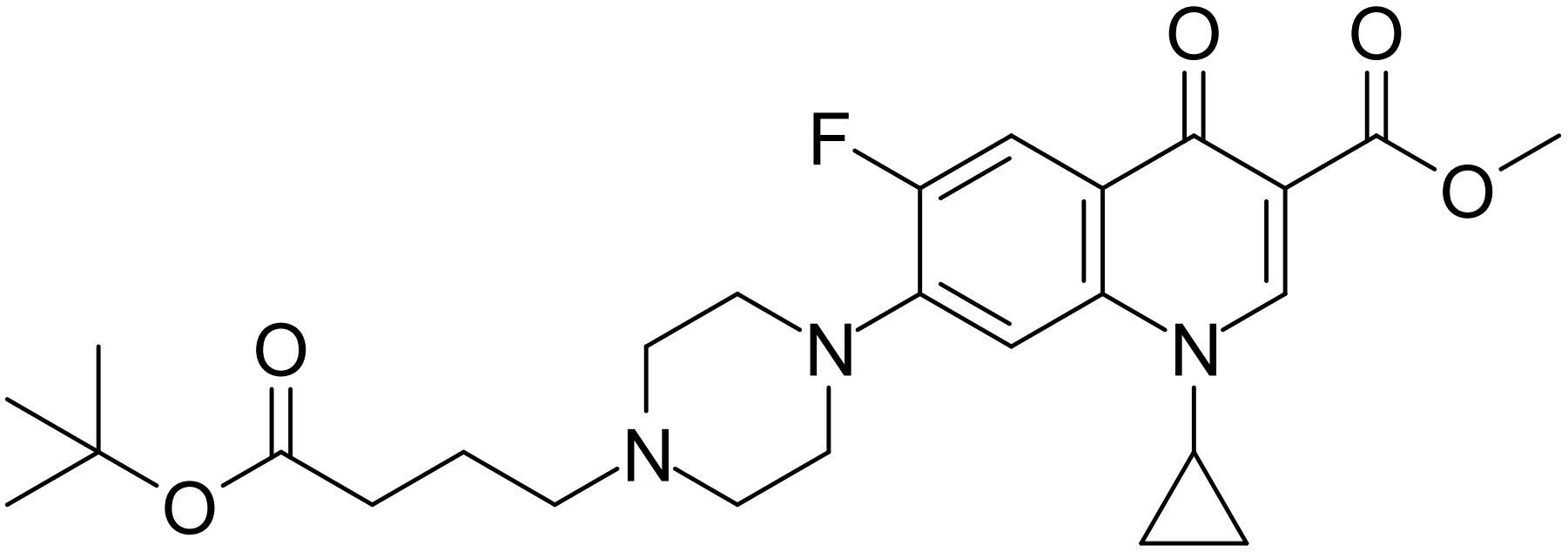
O
OH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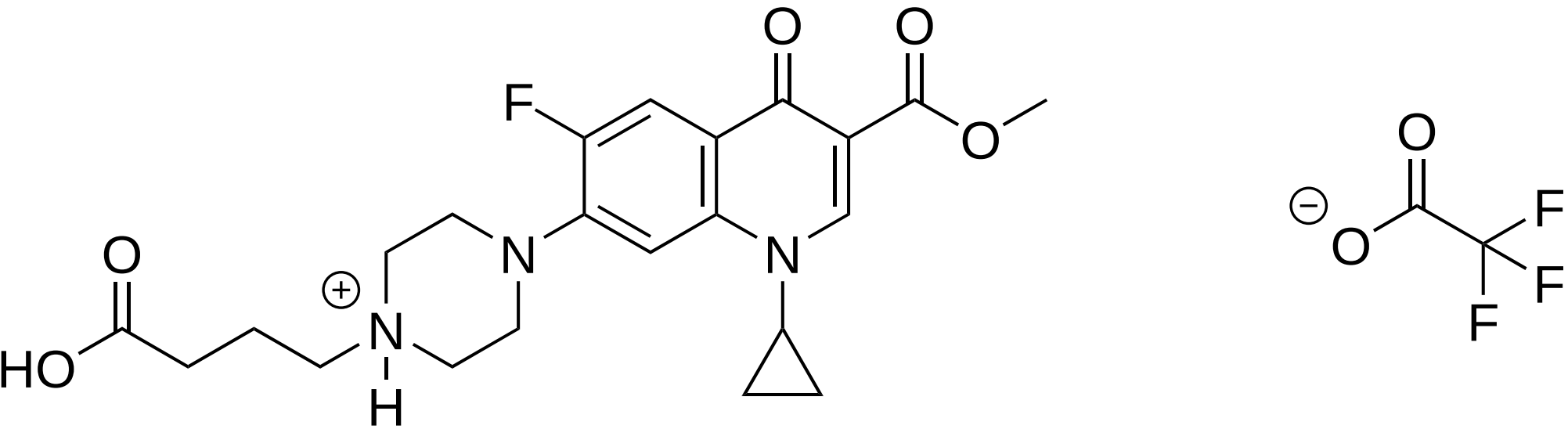
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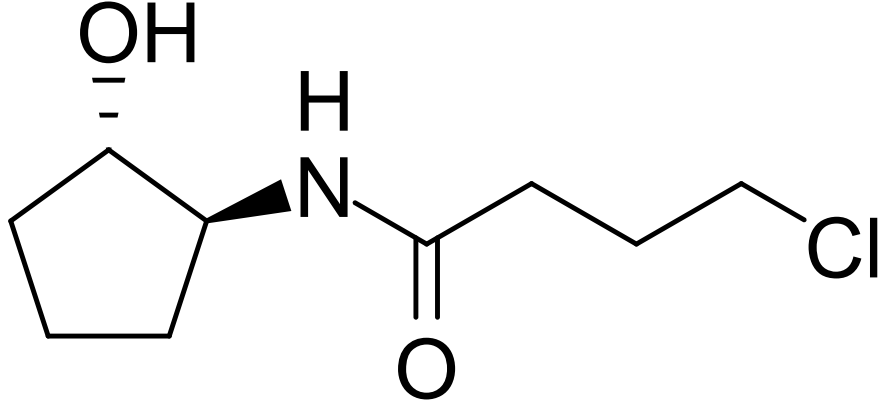
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Cl
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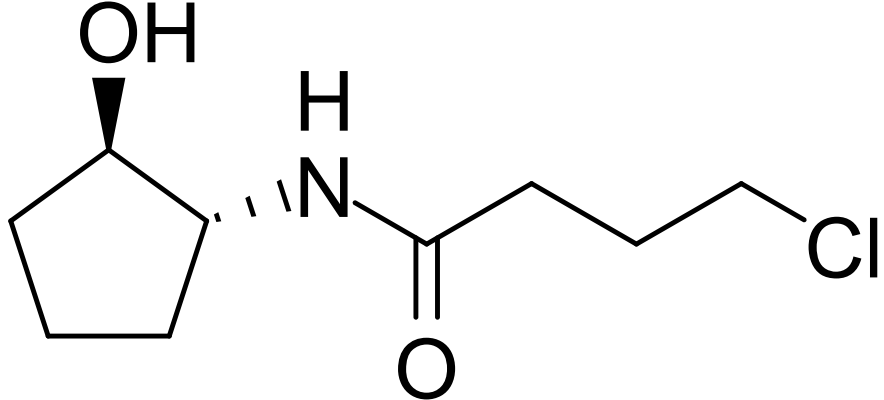
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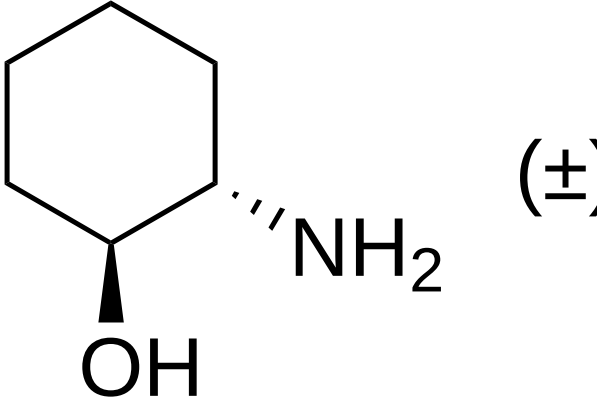
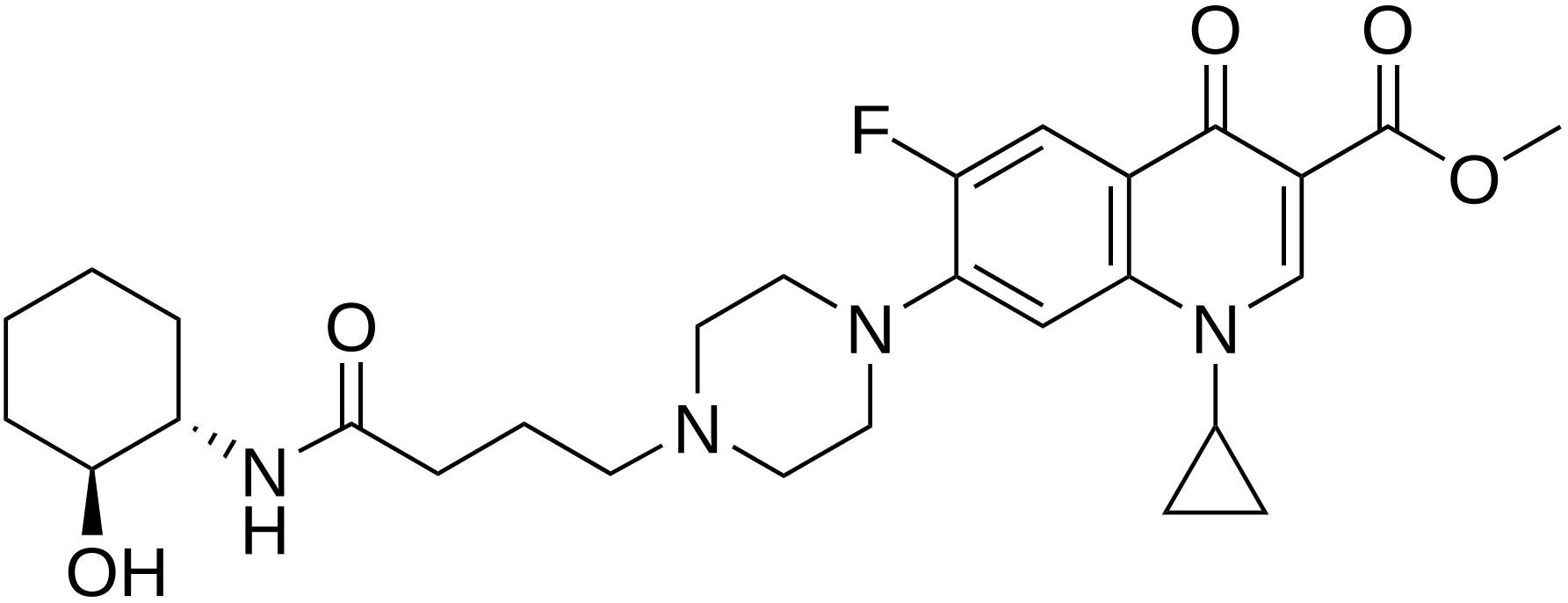
Cl


NH2
OH
(±)


O
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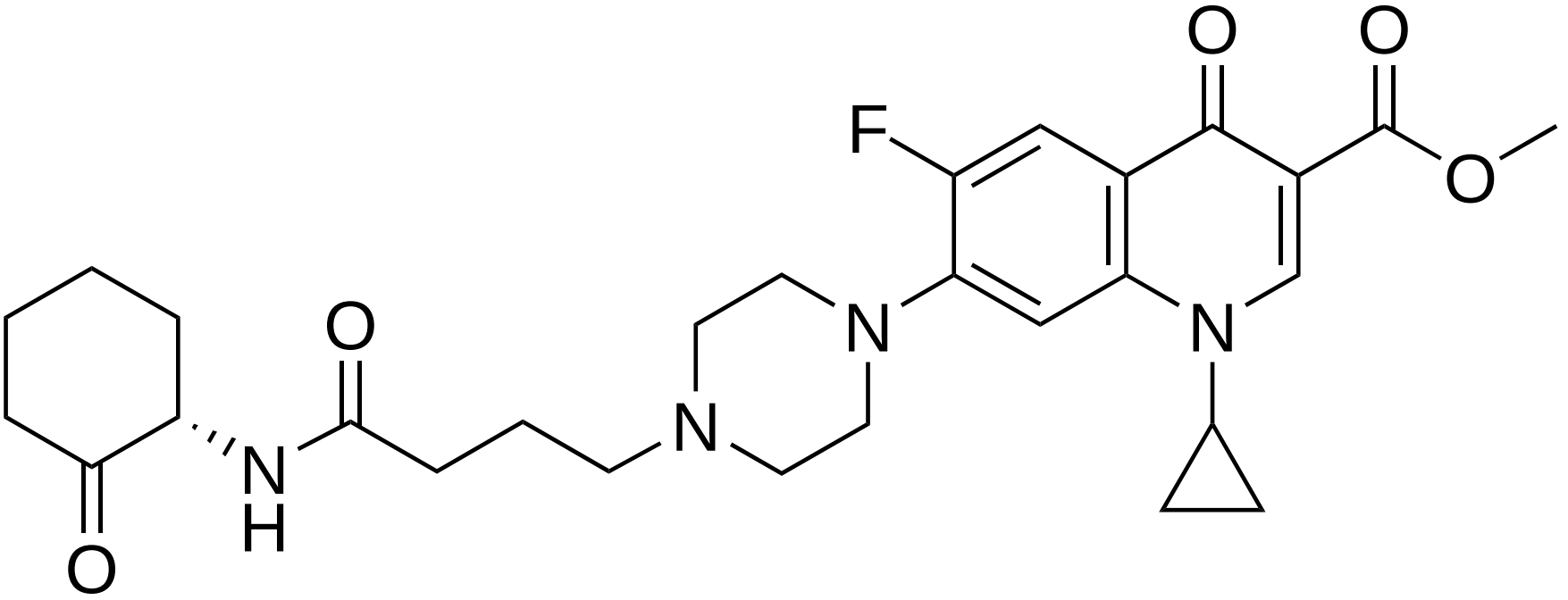
F
O
O
N
N
N
N
H
OH

(±)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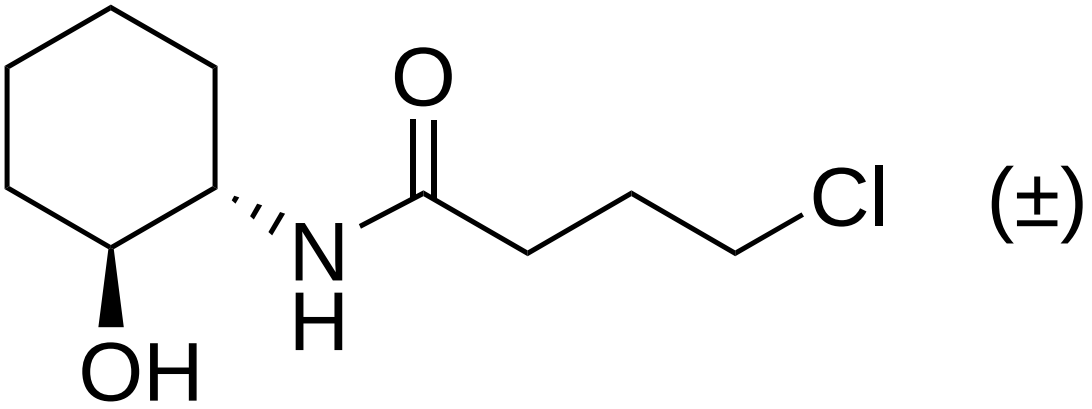
O

(±)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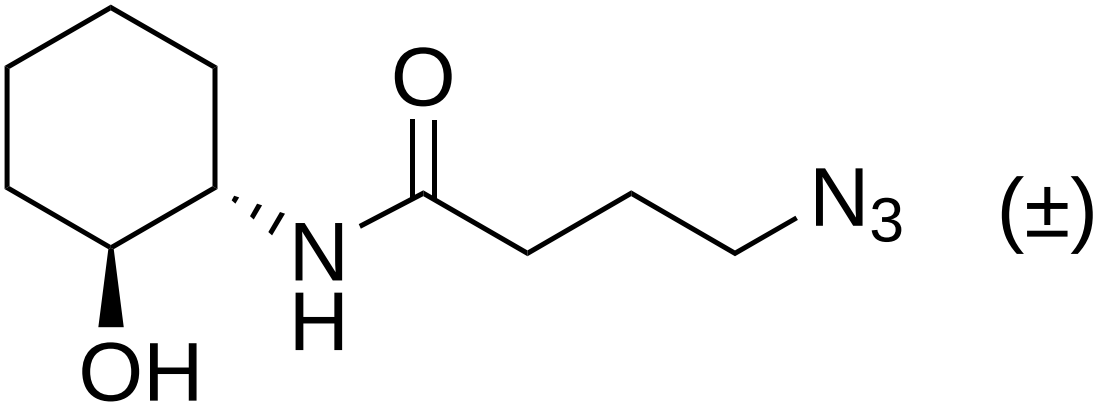
Cl
(±)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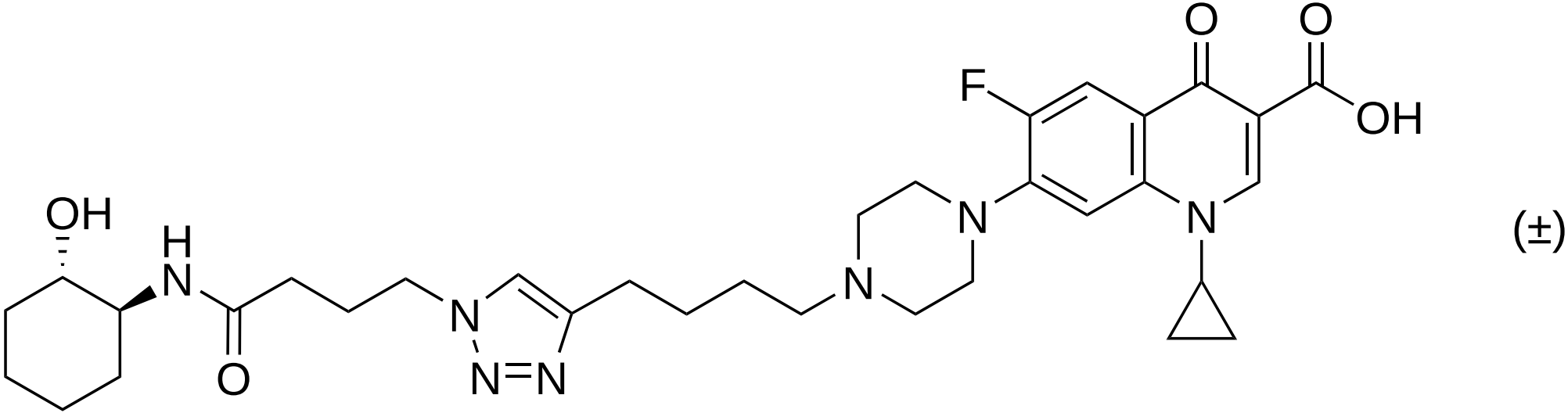
(±)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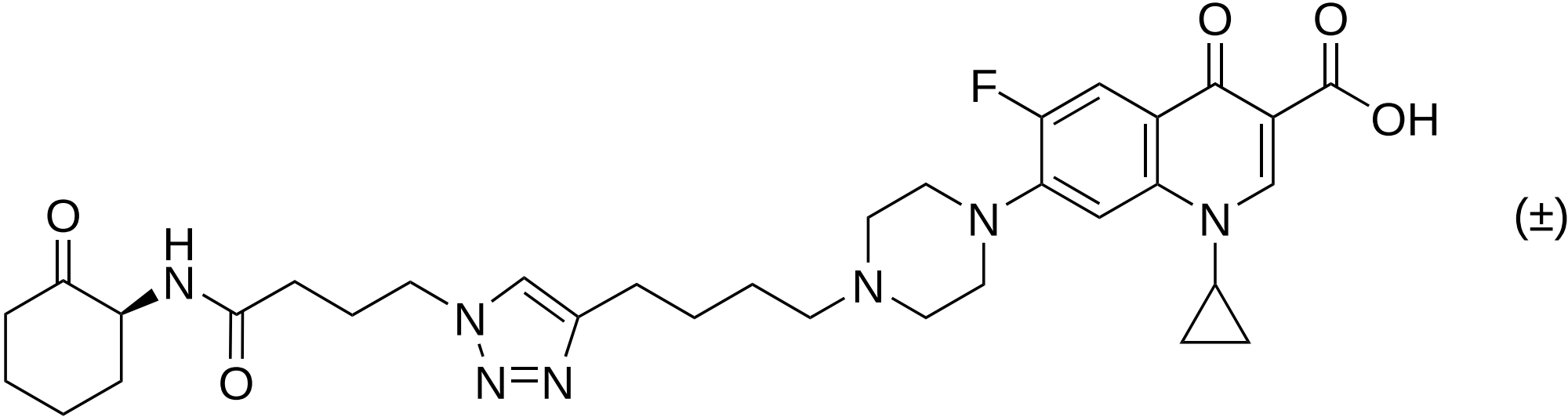
OH
N

(±)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OH

(±)