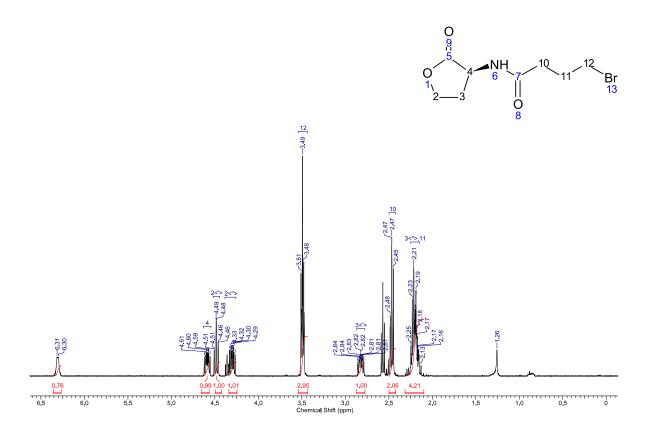
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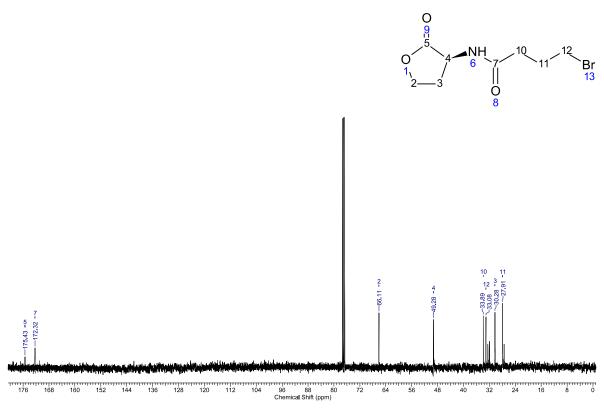
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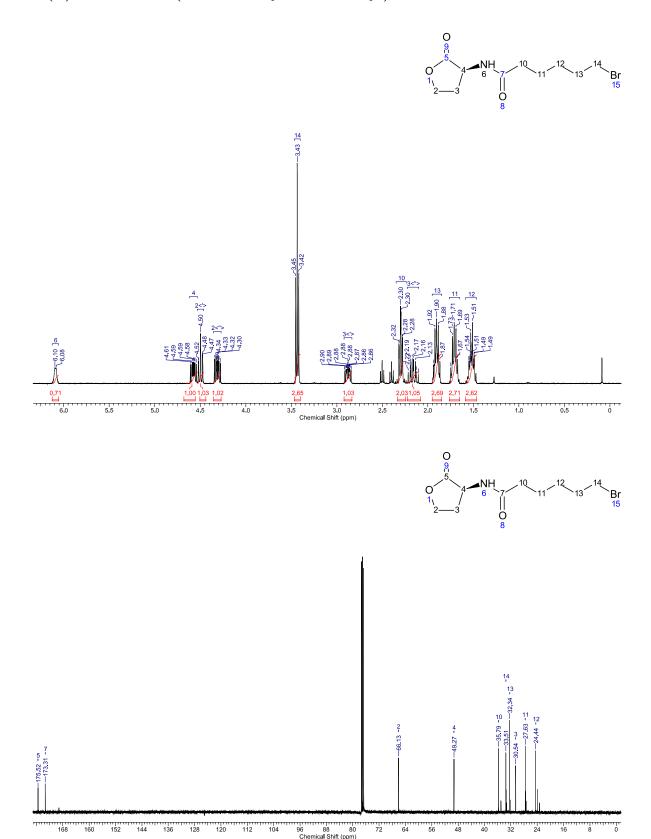
1 NMR spectra

$1.1 \quad (S)\text{-}4\text{-}Bromo-N-(2\text{-}oxotetra$ $hydrofuran-3-yl}) butanamide \ 44$

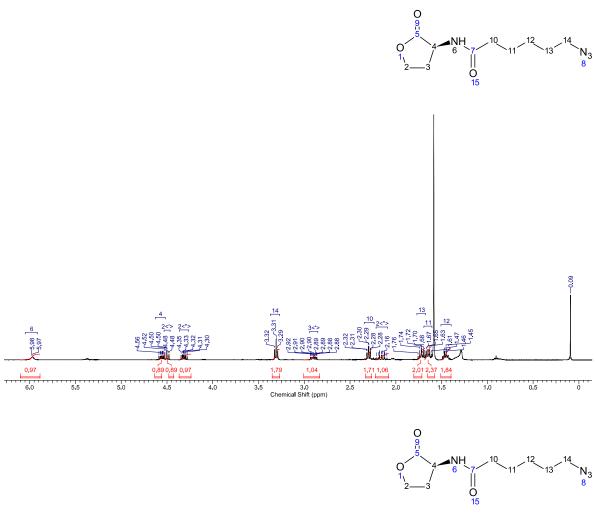


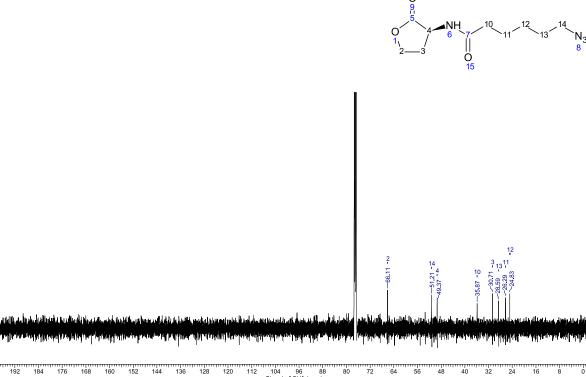


$1.2 \quad (S) \hbox{-} 6\hbox{-} Bromo- \textit{N-} (2\hbox{-} oxotetra hydrofuran-3-yl) hexanamide \ 45$

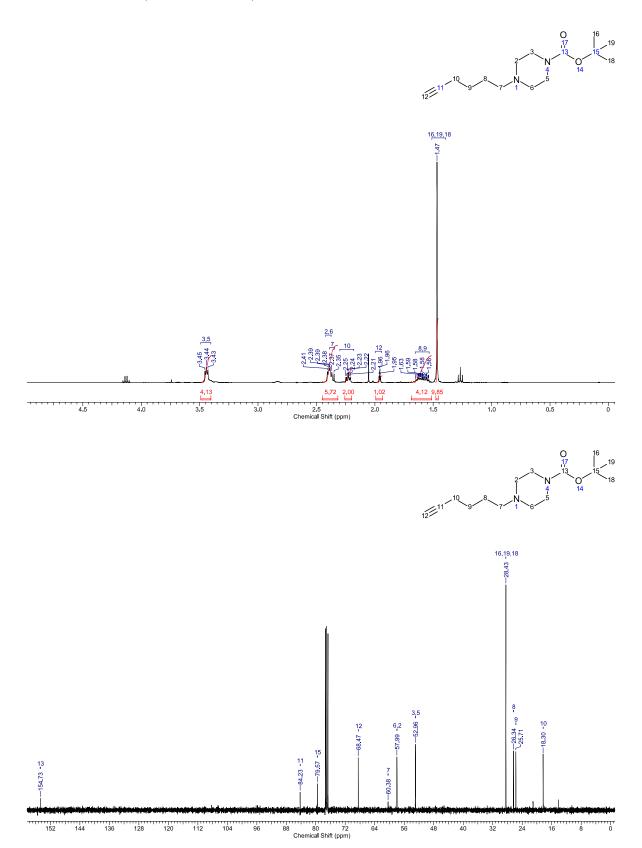


$1.3 \quad (S)\mbox{-}6\mbox{-}\mathrm{Azido-}N\mbox{-}(2\mbox{-}\mathrm{oxotetrahydrofuran-}3\mbox{-}\mathrm{yl})\mbox{hexanamide} \ 47$

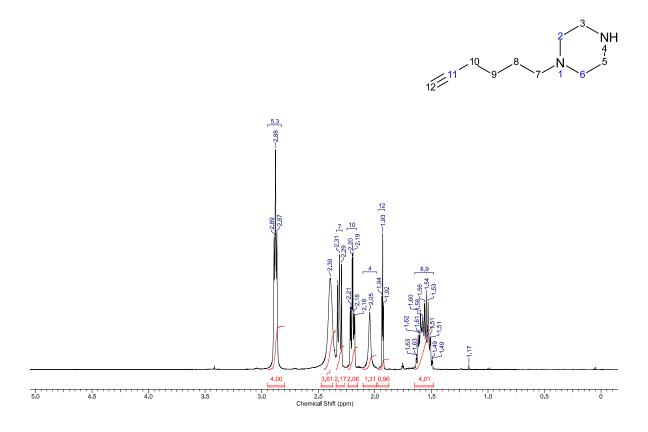


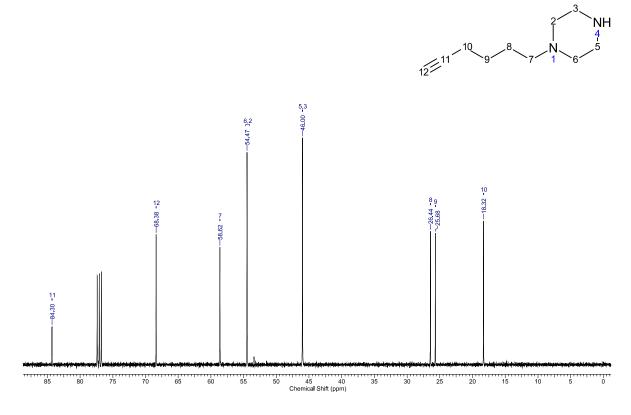


1.4 tert-Butyl 4-(hex-5-yn-1-yl)piperazine-1-carboxylate 51

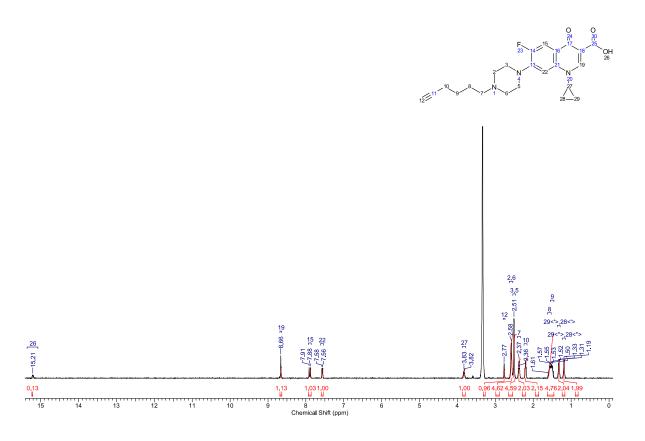


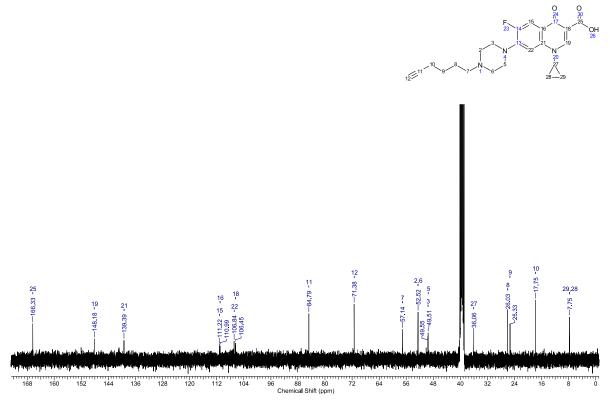
$1.5\quad 1\hbox{-}(\text{Hex-5-yn-1-yl}) \text{piperazine } 52$





$1.6 \quad 1\hbox{-Cyclopropyl-6-fluoro-7-(4-(hex-5-yn-1-yl)piperazin-1-yl)-4-oxo-1,4-dihydroquinoline-3-carboxylic acid 54}$





1.7	$5\hbox{-}(4\hbox{-}(Hex\hbox{-}5\hbox{-}yn\hbox{-}1\hbox{-}yloxy)\hbox{-}3,}5\hbox{-}dimethoxybenzyl) pyrimidine-2,}4\hbox{-}diamine\ 124$
Y4Tr	·i_H.pdf
Y4Tr	i_C.pdf

1.8	$(S)\hbox{-}1\hbox{-}Cyclopropyl-6\hbox{-}fluoro\hbox{-}4\hbox{-}oxo\hbox{-}7\hbox{-}(4\hbox{-}(4\hbox{-}(1\hbox{-}(2\hbox{-}oxo\hbox{-}2\hbox{-}((2\hbox{-}oxo\hbox{tetrahydrofuran-}3\hbox{-}yl)\hbox{amino})\hbox{ethyl})\hbox{-}1$$H$-1,2,3-triazol-4-yl) butyl) piperazin-1-yl)\hbox{-}1,4-dihydroquinoline-3-carboxylic acid 125}$
HL2T	4Cip_H.pdf
HL2T	4Cip_C.pdf

yl)amino)butyl)-1 H -1,2,3-triazo 3 -carboxylic acid 12 6	 i) 1,1 diliyaroquillol
.4T4Cip_H.pdf	
4T4Cip_C.pdf	

	oxo-7-(4-(4-(1-(6-oxo-6-((2-oxotetrahydrofuran-riazol-4-yl)butyl)piperazin-1-yl)-1,4-dihydroquin
HL6T4Cip_H.pdf	
IL6T4Cip_C.pdf	

1.11	1-Cyclopropyl-6-fluoro-7-(4-(4-(1-(2-heptyl-4-oxo-1,4-dihydroquinolin-6-yl)-1H 1,2,3-triazol-4-yl)butyl)piperazin-1-yl)-4-oxo-1,4-dihydroquinoline-3-carboxylidacid 128
6ннот	4Cip_H.pdf
6ннот	4Cip_C.pdf

1.12 (S) -4- $(4$ - $(4$ - $(4$ - $((2,4$ -Diaminopyrimidin-5-yl)model H -1,2,3-triazol-1-yl)- N - $(2$ -oxotetrahydrofuration (S) -	
HL4T4Tri_H.pdf	
HL4T4Tri_C.pdf	

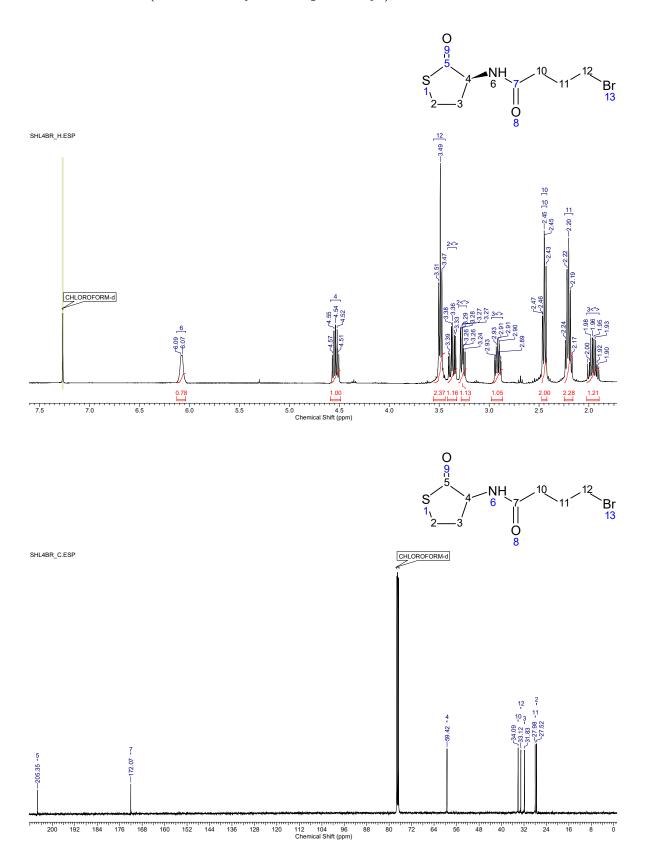
yl)-2,6-dimethoxyphenoxy)buty 3-yl)hexanamide 130

1H-1,2,3-triazol-1-yl)-2-heptylquinolin- $4(1H)$ -one 131	
6HHQT4Tri_H.pdf	
6HHQT4Tri_C.pdf	

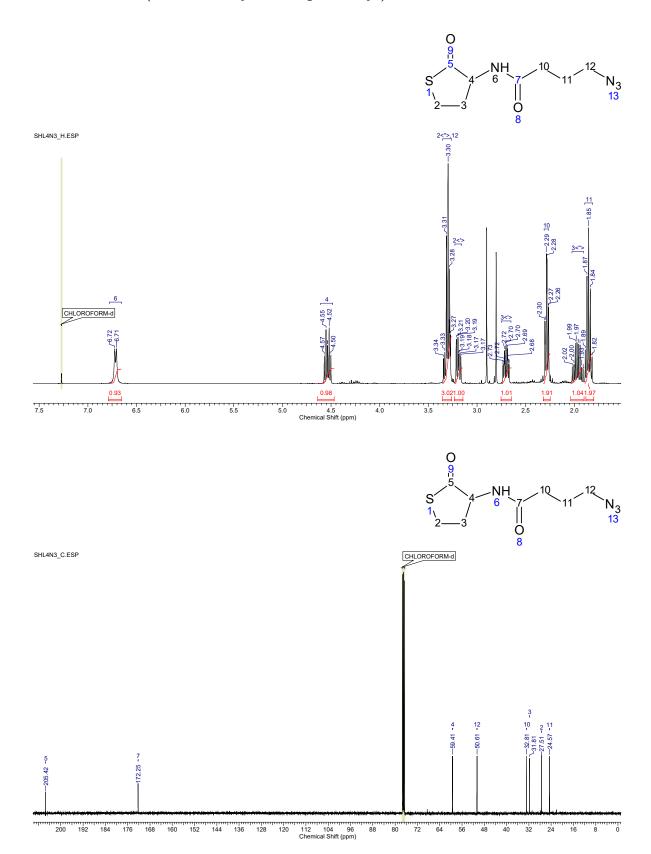
 $1.14 \quad 6\hbox{-}(4\hbox{-}(4\hbox{-}(4\hbox{-}((2,4\hbox{-Diaminopyrimidin-}5\hbox{-yl})\text{methyl})\hbox{-}2,} \\ 6\hbox{-dimethoxyphenoxy}) \\ \text{butyl}) \\ -2, 6\hbox{-dimethoxyphenoxy}) \\ -2, 6\hbox{-dimethoxyphenoxy}) \\ \text{butyl}) \\ -2, 6\hbox{-dimethoxyphenoxy}) \\ -2, 6\hbox{-dimethoxyphenoxy})$

3-hydroxyquinolin-4 $(1H)$ -c	dimethoxyphenoxy)bu one 132
<u> </u>	-hydroxyquinolin-4(1 <i>H</i>)-o

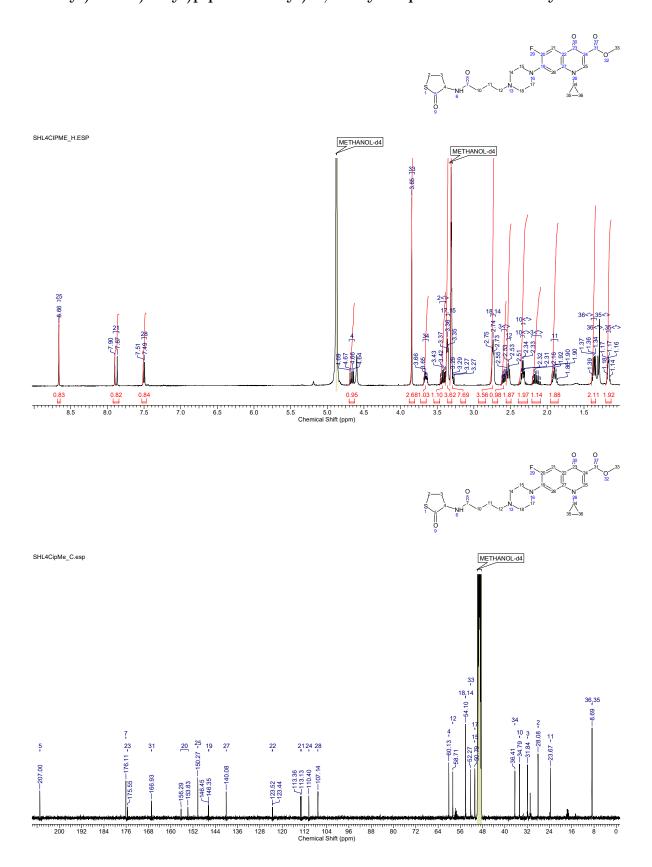
$1.16\quad \text{4-Bromo-} N\text{-}(2\text{-}oxotetra hydrothiophen-3-yl}) butanamide \ 133$



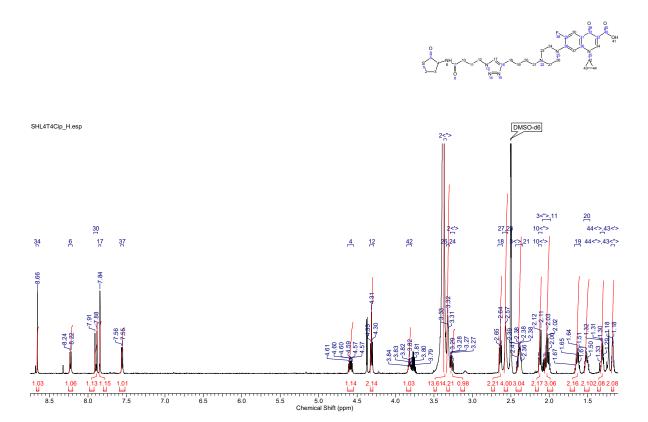
1.17 4-Azido-N-(2-oxotetrahydrothiophen-3-yl)butanamide 134

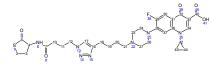


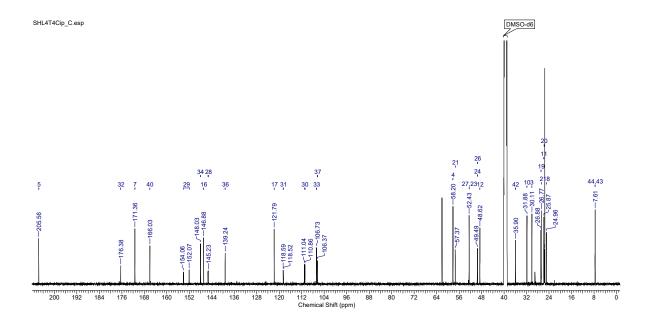
$1.18 \quad \text{Methyl 1-cyclopropyl-6-fluoro-4-oxo-7-} (4-(4-\text{oxo-4-}((2-\text{oxotetrahydrothiophen-3-yl})\text{amino})\text{butyl}) piperazin-1-yl)-1, 4-dihydroquinoline-3-carboxylate 135$



$1.19 \quad 1- Cyclopropyl-6-fluoro-4-oxo-7-(4-(4-(1-(4-oxo-4-((2-oxotetrahydrothiophen-3-yl)amino)butyl)-1H-1,2,3-triazol-4-yl)butyl)piperazin-1-yl)-1,4-dihydroquinol-ine-3-carboxylic acid 136$

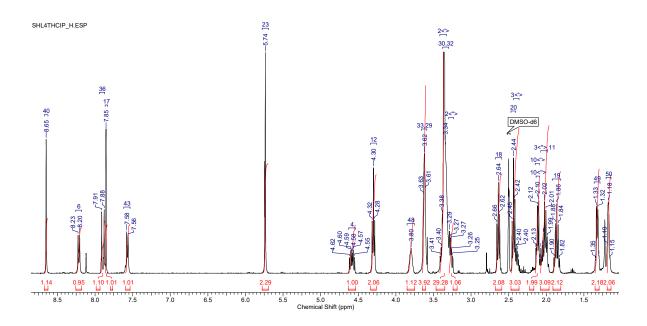


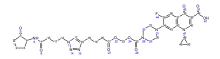


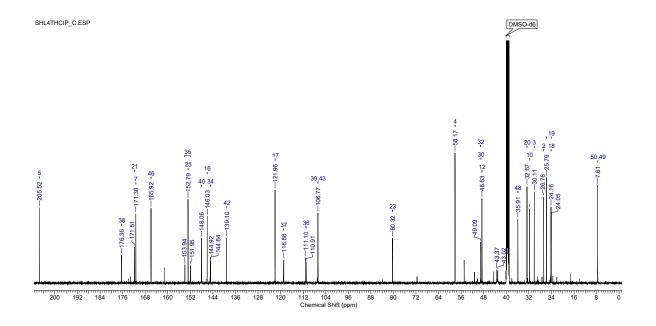


 $1.20 \quad 1- Cyclopropyl-6-fluoro-4-oxo-7-(4-((((4-(1-(4-oxo-4-((2-oxotetrahydrothiophen-3-yl)amino)butyl)-1H-1,2,3-triazol-4-yl)butanoyl)oxy)methoxy)carbonyl)piperazin-1-yl)-1,4-dihydroquinoline-3-carboxylic acid 137$









2MeOA4Br_H.pdf ${\tt 2MeOA4Br_C.pdf}$ 1.22 4-Bromo-N-(3-methoxyphenyl) butanamide 140 3MeOA4Br_H.pdf $3MeOA4Br_C.pdf$

 $\hbox{4-Bromo-$N-$(2-methoxyphenyl)} but an amide \ 139$

1.21

1.23 4-Azido-N-(3-methoxyphenyl)butanamide 141 3MeOA4N3_H.pdf 3MeOA4N3_C.pdf

1.24	$\label{lem:methyl-1-cyclopropyl-6-fluoro-7-(4-(4-((2-methoxyphenyl)amino)-4-oxobutyl)-piperazin-1-yl)-4-oxo-1, 4-dihydroquinoline-3-carboxylate 142}$
2MeOA4	4CipMe_H.pdf
2MeOA4	4CipMe_C.pdf

l)amino)-4-oxobutyl) e 143

1.26	1-Cyclopropyl-6-fluoro-7-(4-(4-(1-(4-((2-methoxyphenyl)amino)-4-oxobutyl) 1H-1,2,3-triazol-4-yl)butyl)piperazin-1-yl)-4-oxo-1,4-dihydroquinoline-3-car oxylic acid 144
2MeOA	4Т4Сip_Н.pdf
2MeOA	4T4Cip_C.pdf

1.27	1H-1,2,3-triazol-4-yl)butyl)piperazin-1-yl)-4-oxo-1,4-dihydroquinoline-3-ca oxylic acid 145	
3MeO <i>l</i>	4T4Cip_H.pdf	
3Me0 <i>l</i>	4T4Cip_C.pdf	

tBu4CipMe_H.pdf tBu4CipMe_C.pdf	tyl)piperazin-1-yl)-1-cyclopropyl-6-flu- oxylate 146	Methyl 7-(4-(4-(tert-butoxy)-oro-4-oxo-1,4-dihydroquinolin
tBu4CipMe_C.pdf		CipMe_H.pdf
		CipMe_C.pdf

.29 4-(4-(1-Cyclopropyl-6-fluoro-3-(methoxycarbony 7-yl)piperazin-1-yl)butanoic acid, trifluoroacetic	
HOO4CipMeTFA_H.pdf	
HOO4CipMeTFA_C.pdf	

1.30 4-Chloro	o- N - $((1S,2S)$ -2-hydroxycyclopentyl) butanamide 148	
HOcy5NH4C1(SS)_H	I.pdf	
HOcy5NH4C1(SS)_C	C.pdf	
1.31 4-Chloro	o- N - $((1R,2R)$ -2-hydroxycyclopentyl) butanamide 149	
HOcy5NH4C1(RR)_H	f.pdf	
HOcy5NH4C1(RR)_C	C.pdf	

_

1.	33 4-Azido- N -((1 S ,2 S)-2-hydroxycyclopentyl)butanamide 151
но	Ocy5NH4N3(SS)_H.pdf
но	Ocy5NH4N3(SS)_C.pdf
1.	34 4-Azido- N - $((1R,2R)$ -2-hydroxycyclopentyl)butanamide 152
:1	HOcy5NH4N3(RR)_H.pdf
:I	HOcy5NH4N3(RR)_C.pdf

	Methyl 1-cyclopropyl-6-fluoro-7- $(4-(4-(((1S,2S)-2-hydroxycyclopentyl)amino)-2-coxobutyl)$ piperazin-1-yl)-4-oxo-1,4-dihydroquinoline-3-carboxylate 153
HOcy5NH4	4CipMe(SS)_H.pdf
НОсу5NН4	łCipMe(SS)_C.pdf

HOcy5NH4CipMe(RR)_H.pdf	entyl)amino te 154
HOcy5NH4CipMe(RR)_C.pdf	

$\label{lem:methyl} \begin{tabular}{l} Methyl (\it{R})$-1-cyclopropyl-6-fluoro-4-oxo-7-(4-(4-oxo-4-((2-oxocyclopentyl)ambino)butyl) piperazin-1-yl)-1,4-dihydroquinoline-3-carboxylate 155 \\ \end{tabular}$
4CipMe(R)_H.pdf
4CipMe(R)_C.pdf

1.3	7-(4-(4-(1-(4-(((1R,2R)-2-((tert-butyldimethylsilyl)oxy)cyclopentyl)amino)-oxobutyl)-1H-1,2,3-triazol-4-yl)butyl)piperazin-1-yl)-1-cyclopropyl-6-fluoro-oxo-1,4-dihydroquinoline-3-carboxylic acid 156
TBS	Ocy5NH4T4Cip(RR)_H.pdf
TBS	Ocy5NH4T4Cip(RR)_C.pdf

HOcy5NH4T4Cip(SS)_H.pdf	
HOcy5NH4T4Cip(SS)_C.pdf	

	1- Cyclopropyl-6-fluoro-7-(4-(4-(1-(4-(((1R,2R)-2-hydroxycyclopentyl)amino)-4-oxobutyl)-1H-1,2,3-triazol-4-yl)butyl)piperazin-1-yl)-4-oxo-1,4-dihydroquino-line-3-carboxylic acid 158
HOcy5NI	H4T4Cip(RR)_H.pdf
HOcy5NI	H4T4Cip(RR)_C.pdf

1.41	4-Chloro- N -(($trans$)-2-hydroxycyclohexyl)butanamide 159
H0cy61	NH4Cl_H.pdf
HOcy6	NH4Cl_C.pdf
1.42	$4 ext{-Azido-}N ext{-}((trans) ext{-}2 ext{-hydroxycyclohexyl})$ butanamide 160
HOcy61	NH4N3_H.pdf

4-oxobutyl)piperazin-1-yl)-4-oxo-1,4-dihydroquinoline-3-carbo	oxylate 161
HOcy6NH4CipMe_H.pdf	
HOcy6NH4CipMe_C.pdf	

1.44	Methyl 1-cyclopropyl-6-fluoro-4-oxo-7-(4-(4-oxo-4-((2-oxocyclohexyl)amino)-butyl)piperazin-1-yl)-1,4-dihydroquinoline-3-carboxylate 162
Осу6М	H4CipMe_H.pdf
Осу6М	H4CipMe_C.pdf

1.	.45		criazol-4-yl)butyl)pip	rans)-2-hydroxycyclohe oerazin-1-yl)-4-oxo-1,4-	
Н	Ocy6N	NH4T4Cip_H.pdf			
Н	Ocy6N	NH4T4Cip_C.pdf			

1.46	1-Cyclopropyl-6-fluoro-4-oxo-7-(4-(4-(1-(4-oxo-4-((2-oxocyclohexyl)amino)but 1H-1,2,3-triazol-4-yl)butyl)piperazin-1-yl)-1,4-dihydroquinoline-3-carboxylic acid 164
Ocy6N	H4T4Cip_H.pdf
Ocy6N	H4T4Cip_C.pdf