An efficient synthesis and in *silico* studies of Benzimidazole hybrid scaffold with quinolinyloxadiazoles skeleton with potential alpha-glucosidase inhibitory, anticoagulant, antiplatelet activity, type-II diabetes mellitus management and treating thrombotic disorders

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Supporting information

Table S1: Physical properties and structural features of target compounds

Compound	Ar	R	Mol. formula	Mol. weight	M. P. (°C)
5a	-	CH_3	$C_{10}H_{12}N_2O_4$	224.08	98-100
5b	-	C_3H_7	$C_{12}H_{16}N_2O_4$	252.11	77-78

5c	-	C_4H_9	$C_{13}H_{18}N_2O_4$	266.13	52-54
6a	-	CH_3	$C_{15}H_{13}BrN_2O_2S$	363.99	160-165
6b	-	C_3H_7	$C_{17}H_{17}BrN_2O_2S$	392.02	120-124
6c	-	C_4H_9	$C_{18}H_{19}BrN_2O_2S$	406.04	95-98
7a	-	CH_3	$C_{13}H_{11}BrN_4OS$	349.98	>230
7b	-	C_3H_7	$C_{15}H_{15}BrN_4OS$	378.01	140-144
7c	-	C_4H_9	$C_{16}H_{17}BrN_4OS$	392.03	>230

8a	3,5-$F_2C_6H_3$	CH_3	$C_{29}H_{16}BrF_2N_5OS$	599.02	214-218
8b	3,5-$F_2C_6H_3$	C_3H_7	$C_{31}H_{20}BrF_2N_5OS$	627.05	189-193
8c	3,5-$F_2C_6H_3$	C_4H_9	$C_{32}H_{22}BrF_2N_5O_2S$	641.07	192-194
8d	2,4-$Cl_2C_6H_3$	CH_3	$C_{29}H_{16}BrCl_2N_5OS$	630.96	>225
8e	2,4-$Cl_2C_6H_3$	C_3H_7	$C_{31}H_{20}BrCl_2N_5OS$	658.99	172-176
8f	2,4-$Cl_2C_6H_3$	C_4H_9	$C_{32}H_{20}BrCl_2N_5OS$	673.01	>225

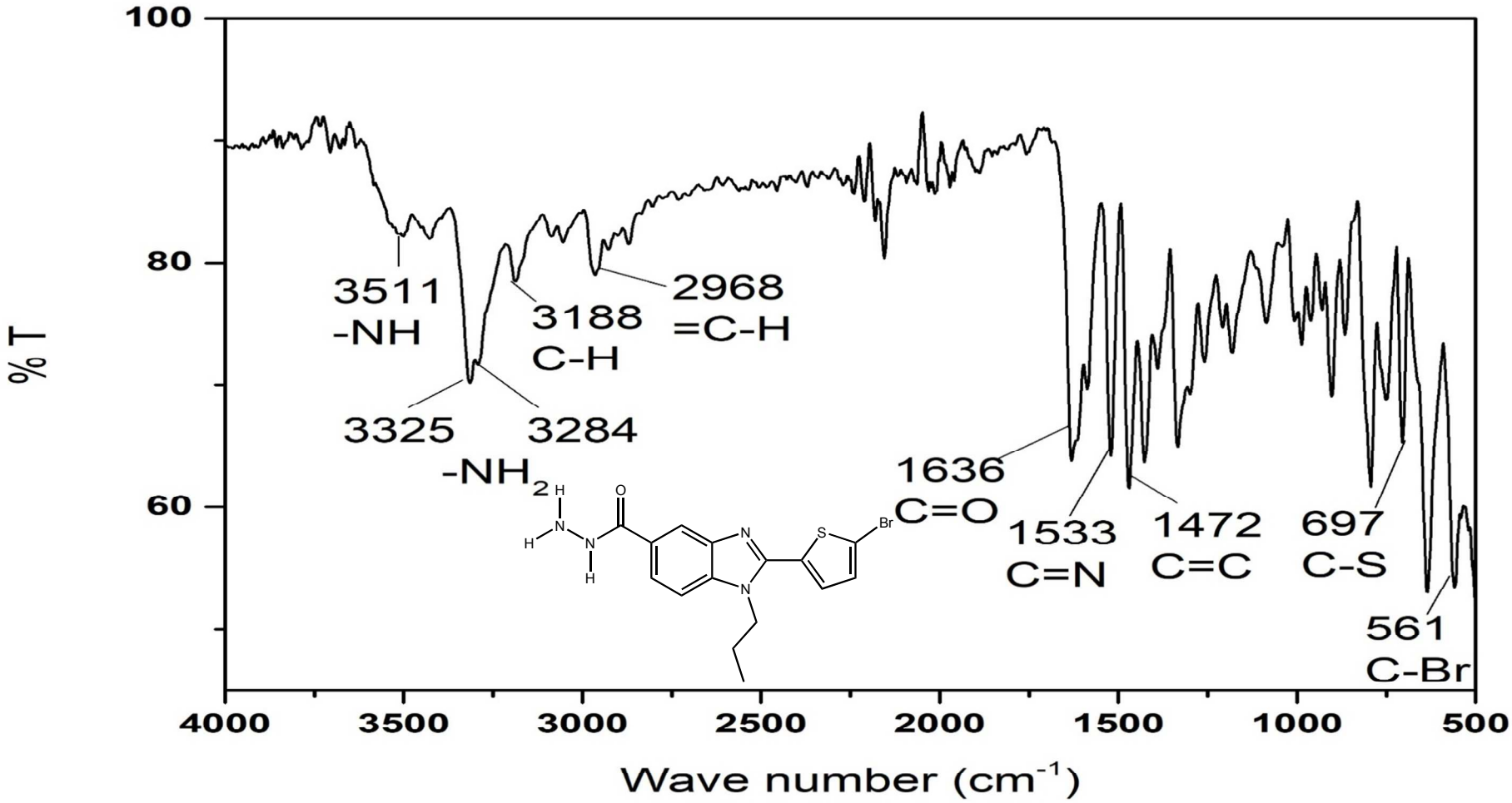

Figure S1: IR spectrum of compound 2-(5-bromothiophen-2-yl)-1-propyl-1H-benzo[d]imidazole-5-carbohydrazide (7b)

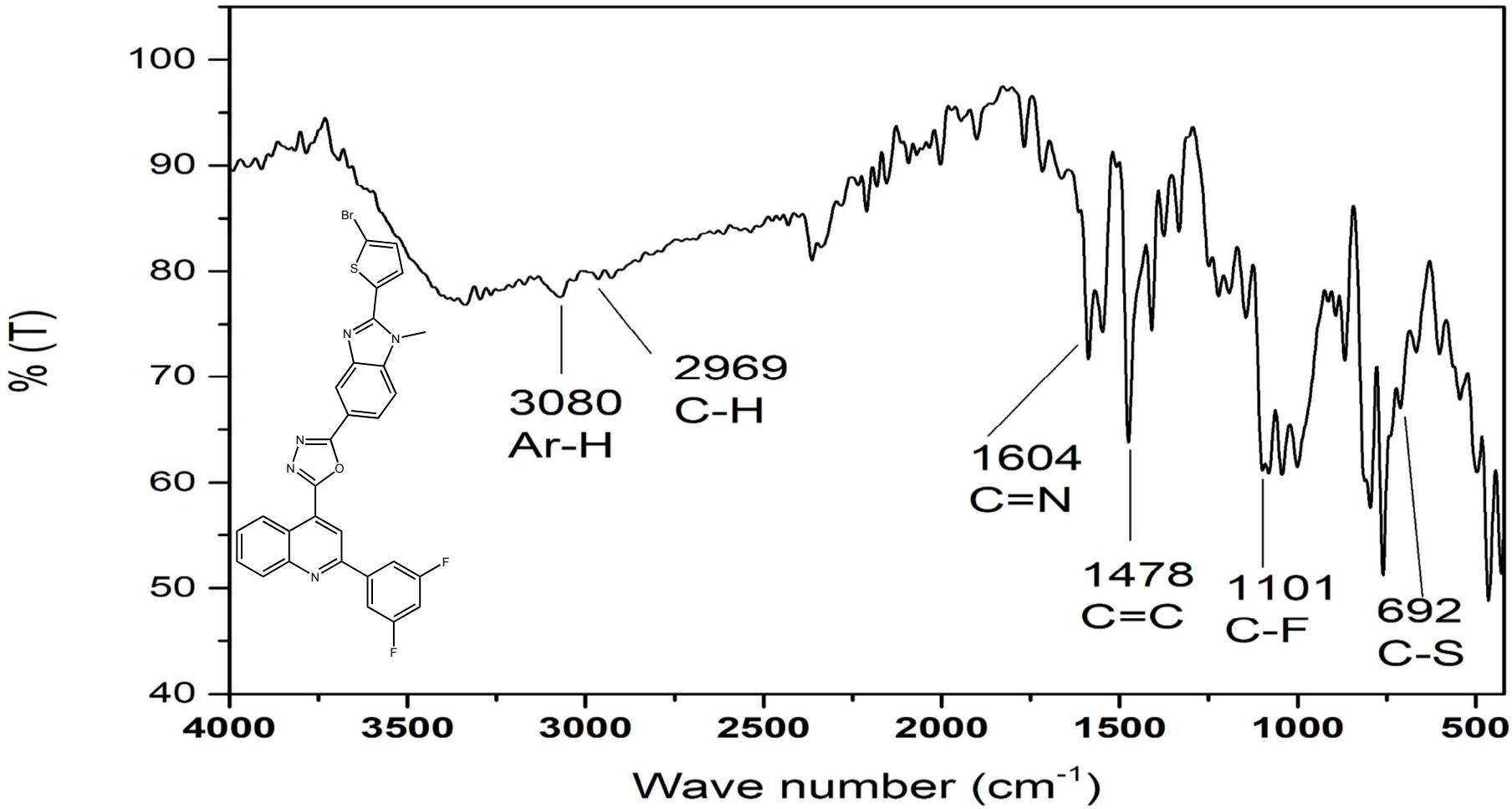

Figure S2: IR spectrum of compound 2-(2-(5-bromothiophen-2-yl)-1-methyl-1H-benzo[d]imidazol-5-yl)-5-(2-(2,4-dichlorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8a)

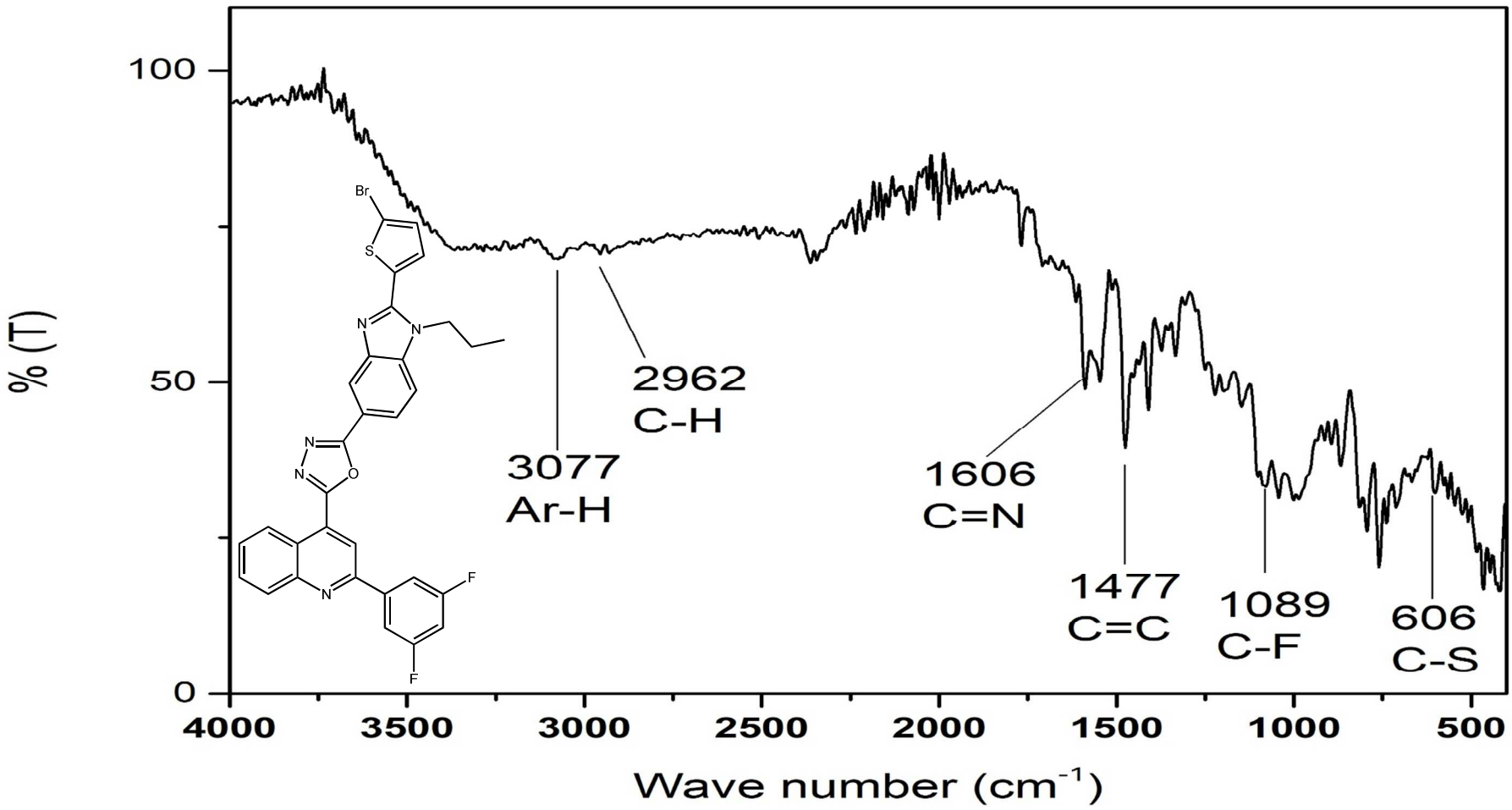

Figure S3: IR spectrum of compound 2-(2-(5-bromothiophen-2-yl)-1-propyl-1H-benzo[d]imidazol-5-yl)-5-(2-(3,5-difluorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8b)

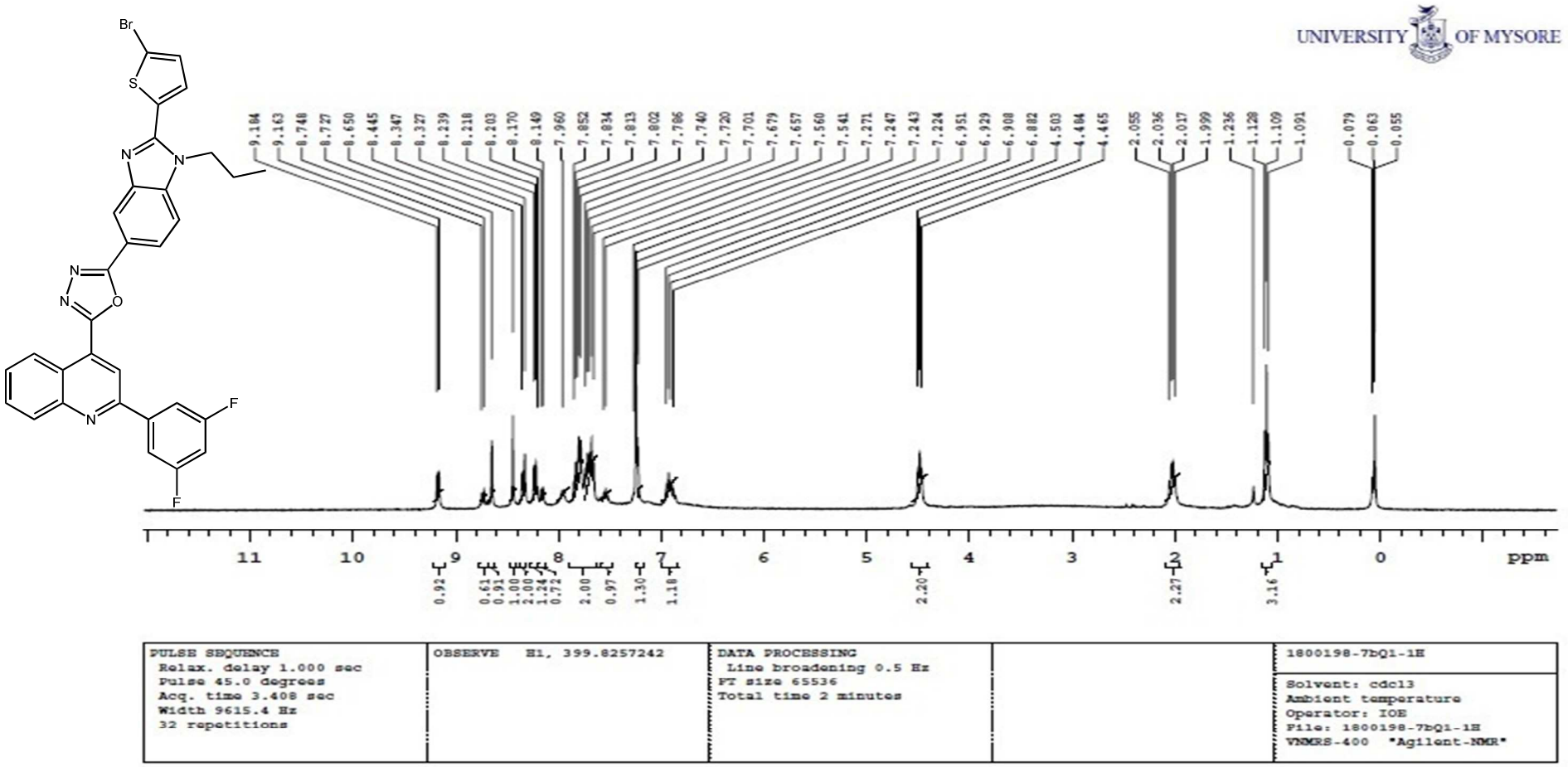

Figure S4: ^{1}H NMR of compound 2-(2-(5-bromothiophen-2-yl)-1-propyl-1H-benzo[d]imidazol-5-yl)-5-(2-(3,5-difluorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8b)

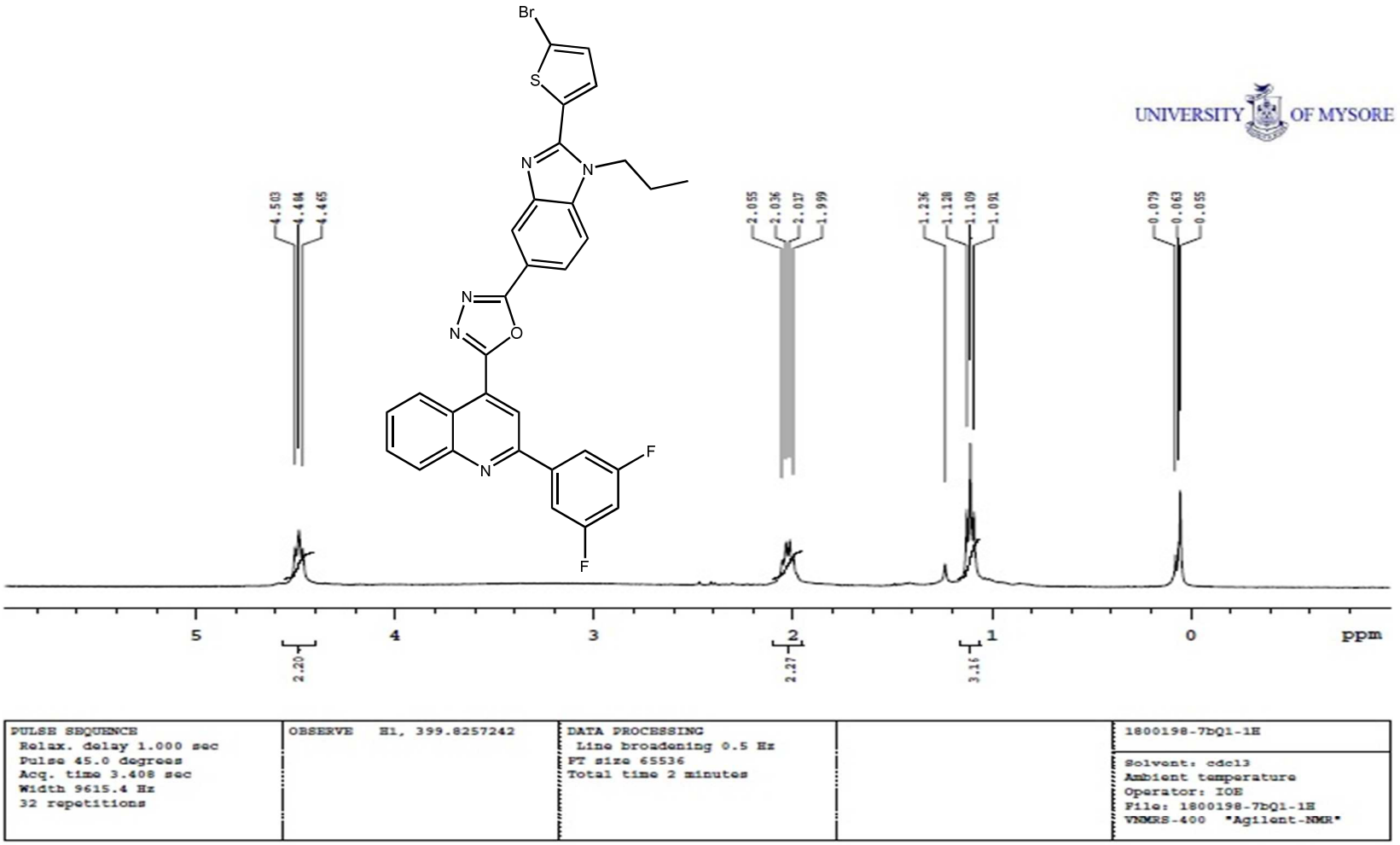

Figure S5: Expanded ^{1}H NMR of compound 2-(2-(5-bromothiophen-2-yl)-1-propyl-1H-benzo[d]imidazol-5-yl)-5-(2-(3,5-difluorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8b)

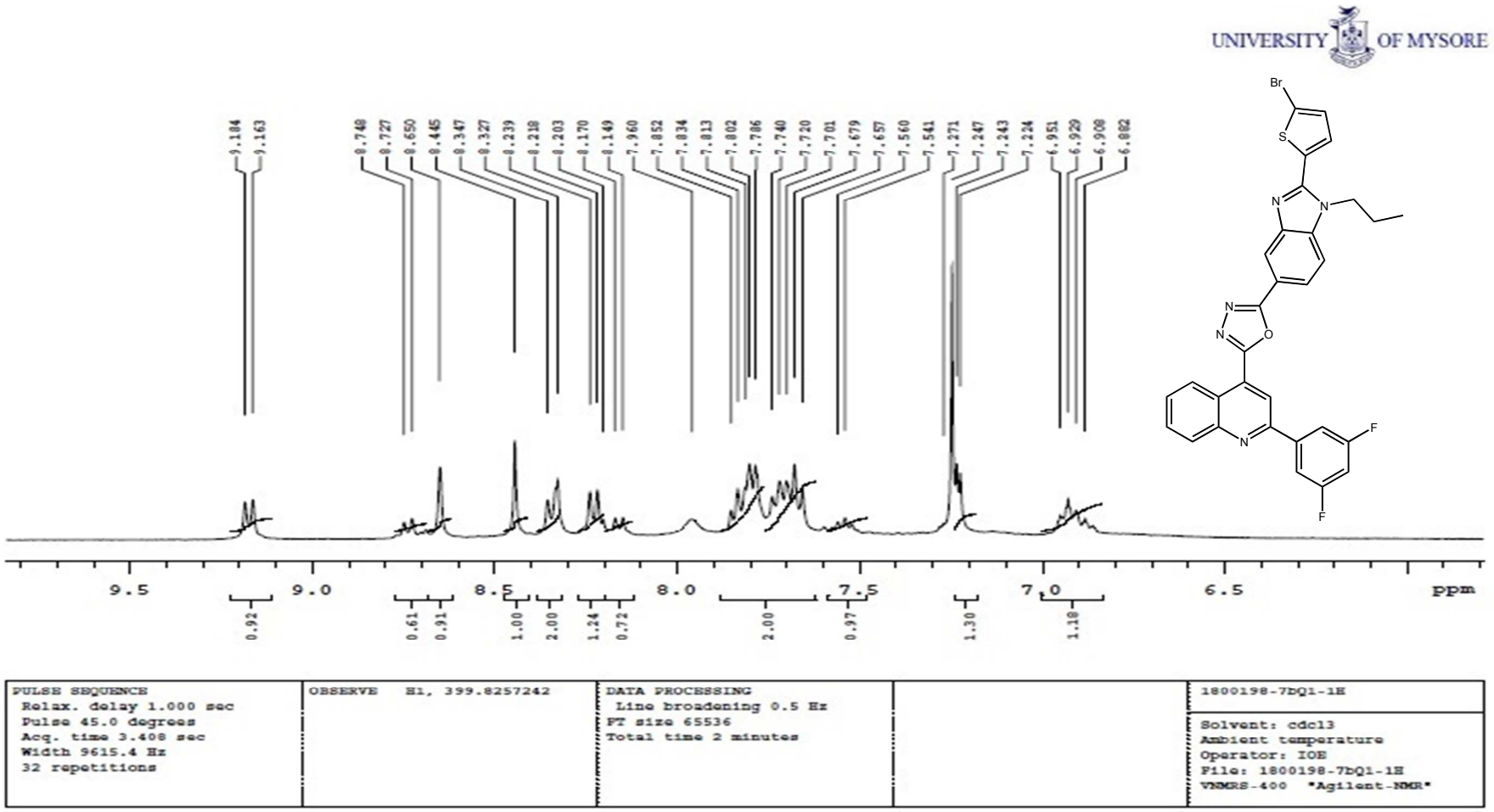

Figure S6: Expanded ^{1}H NMR of compound 2-(2-(5-bromothiophen-2-yl)-1-propyl-1H-benzo[d]imidazol-5-yl)-5-(2-(3,5-difluorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8b)

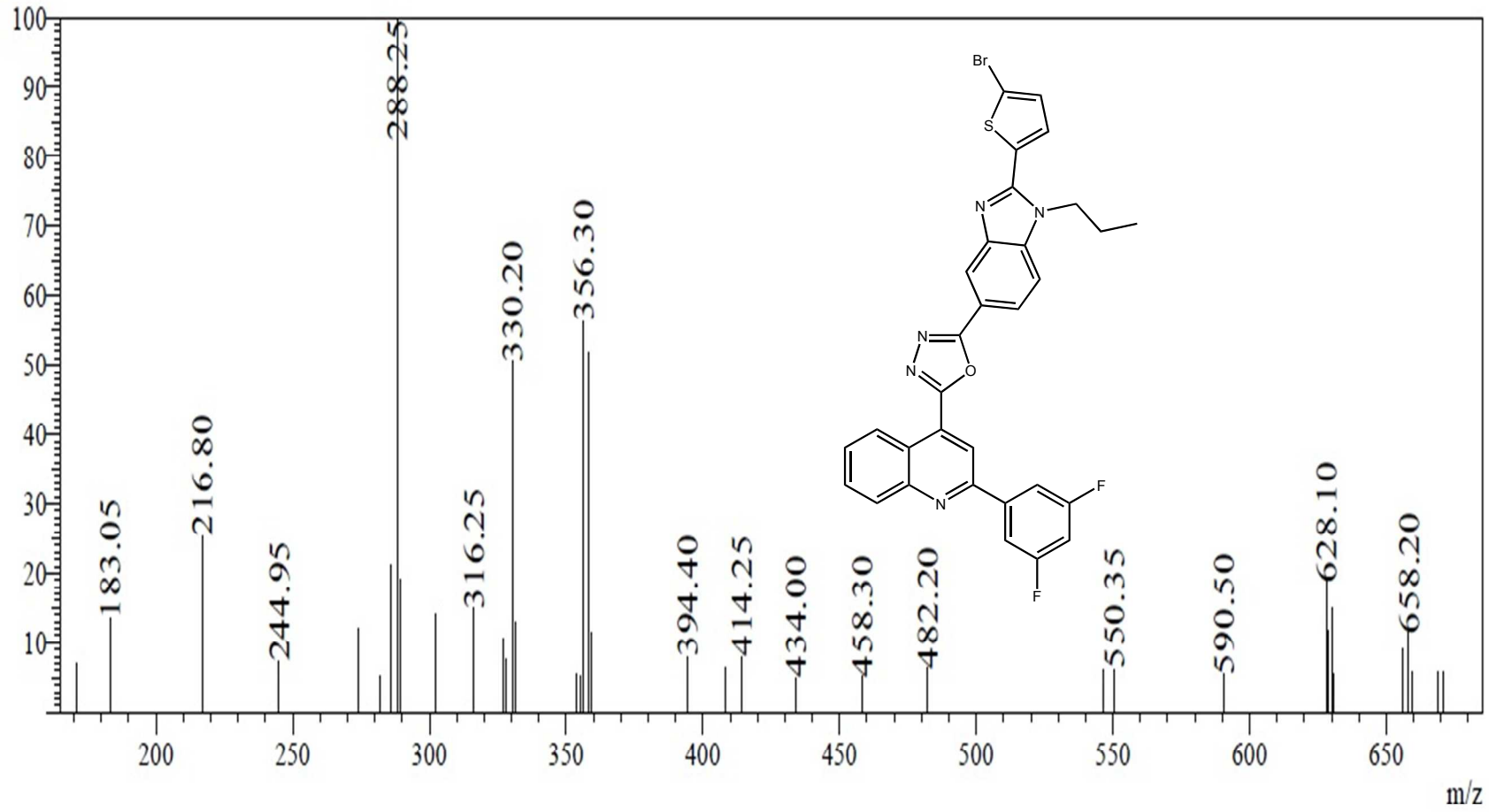

Figure S7: LCMS spectrum of compound 2-(2-(5-bromothiophen-2-yl)-1-propyl-1H-benzo[d]imidazol-5-yl)-5-(2-(3,5-difluorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8b)

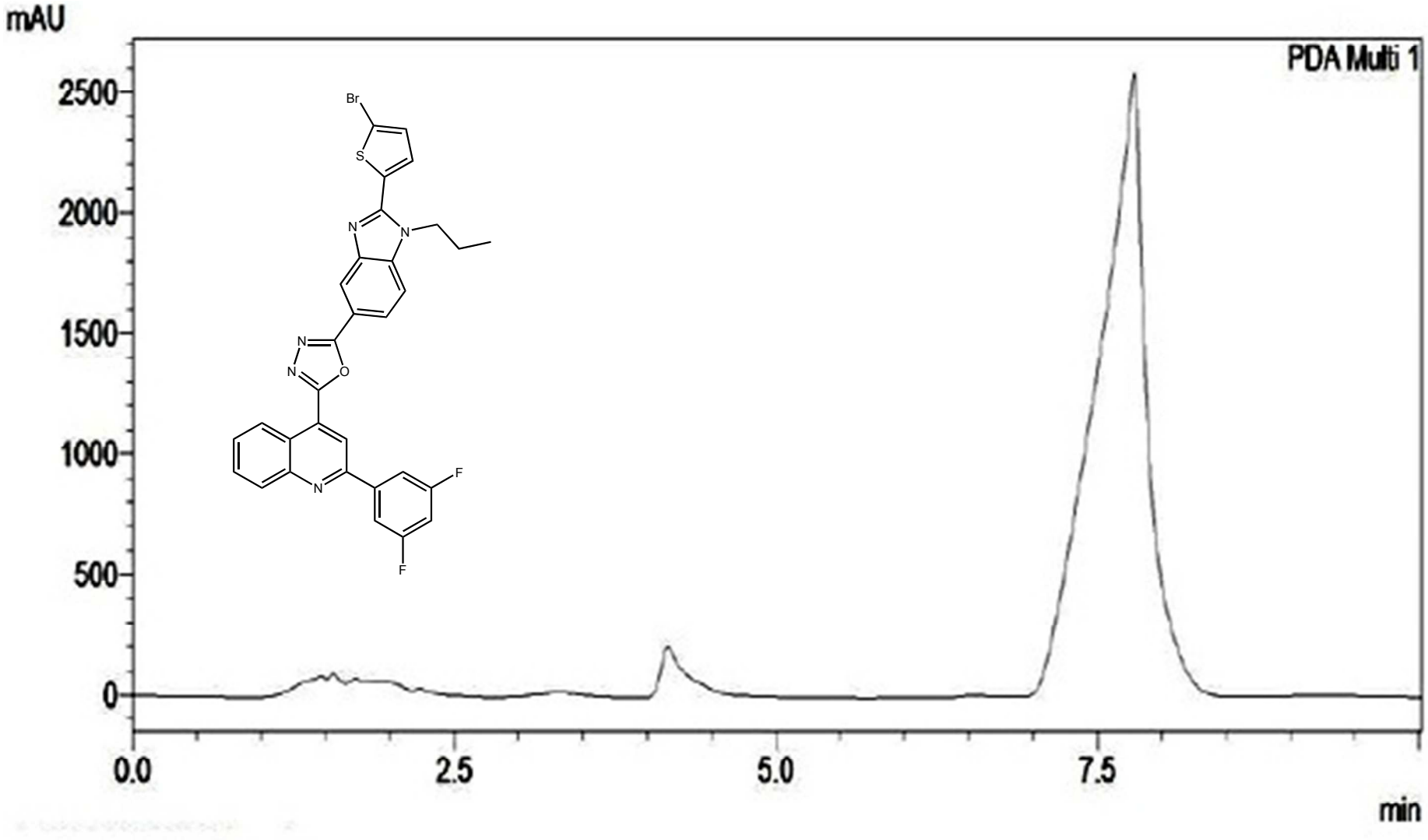

Figure S8: RP-HPLC-spectrum of compound 2-(2-(5-bromothiophen-2-yl)-1-propyl-1H-benzo[d]imidazol-5-yl)-5-(2-(3,5-difluorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8b)

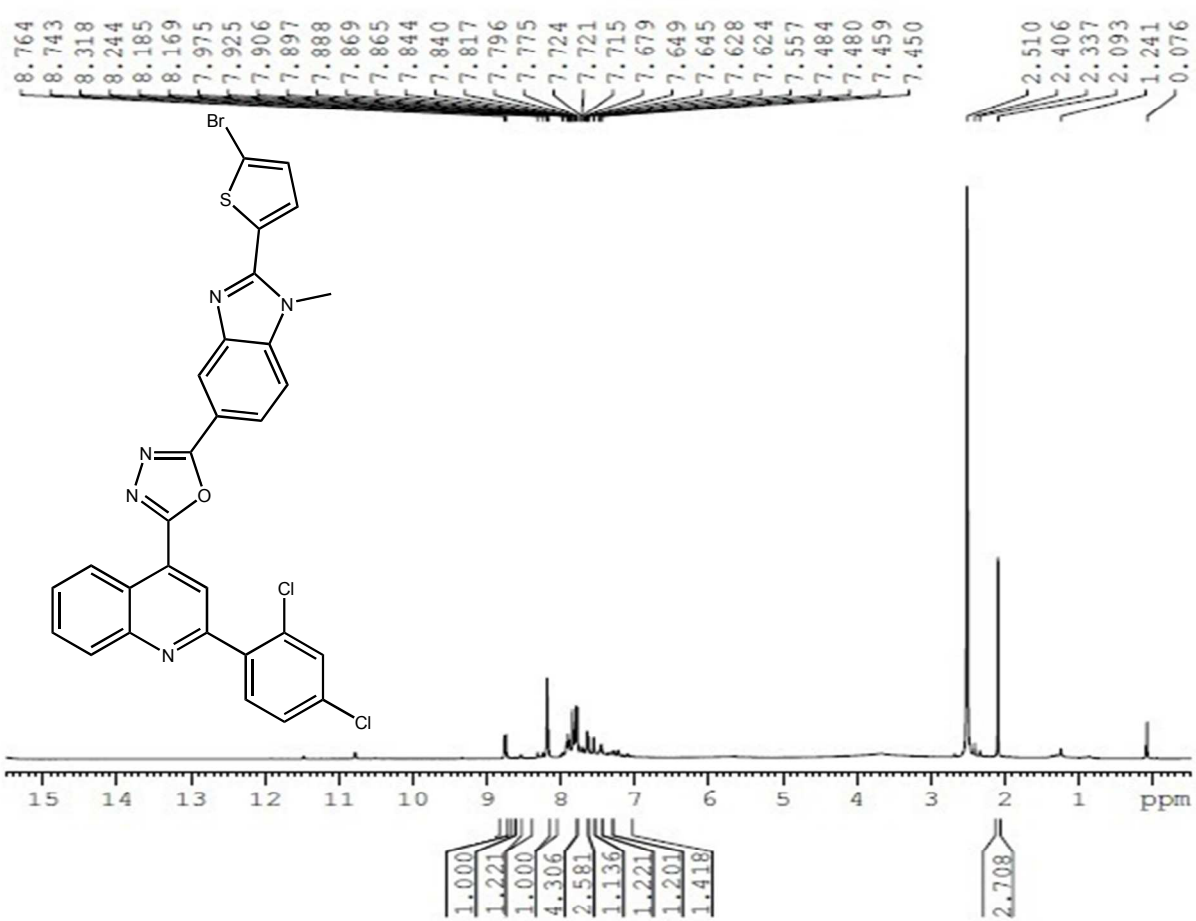


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Figure S9: ^{1}H NMR of compound 2-(2-(5-bromothiophen-2-yl)-1-methyl-1H-benzo[d]imidazol-5-yl)-5-(2-(2,4-dichlorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8d)

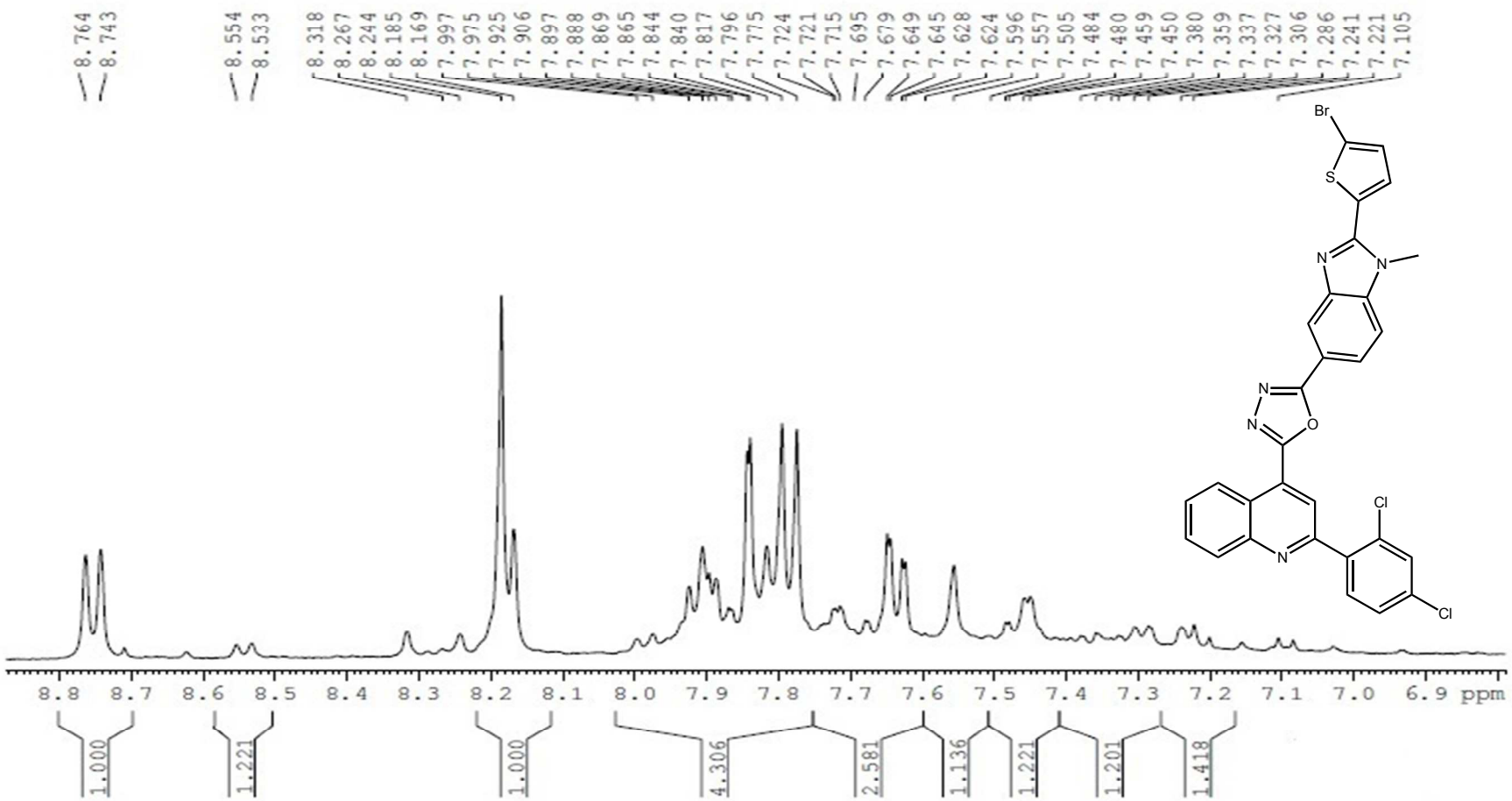

Figure S10: Expanded ^{1}H NMR of compound 2-(2-(5-bromothiophen-2-yl)-1-methyl-1H-benzo[d]imidazol-5-yl)-5-(2-(2,4-dichlorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8d)

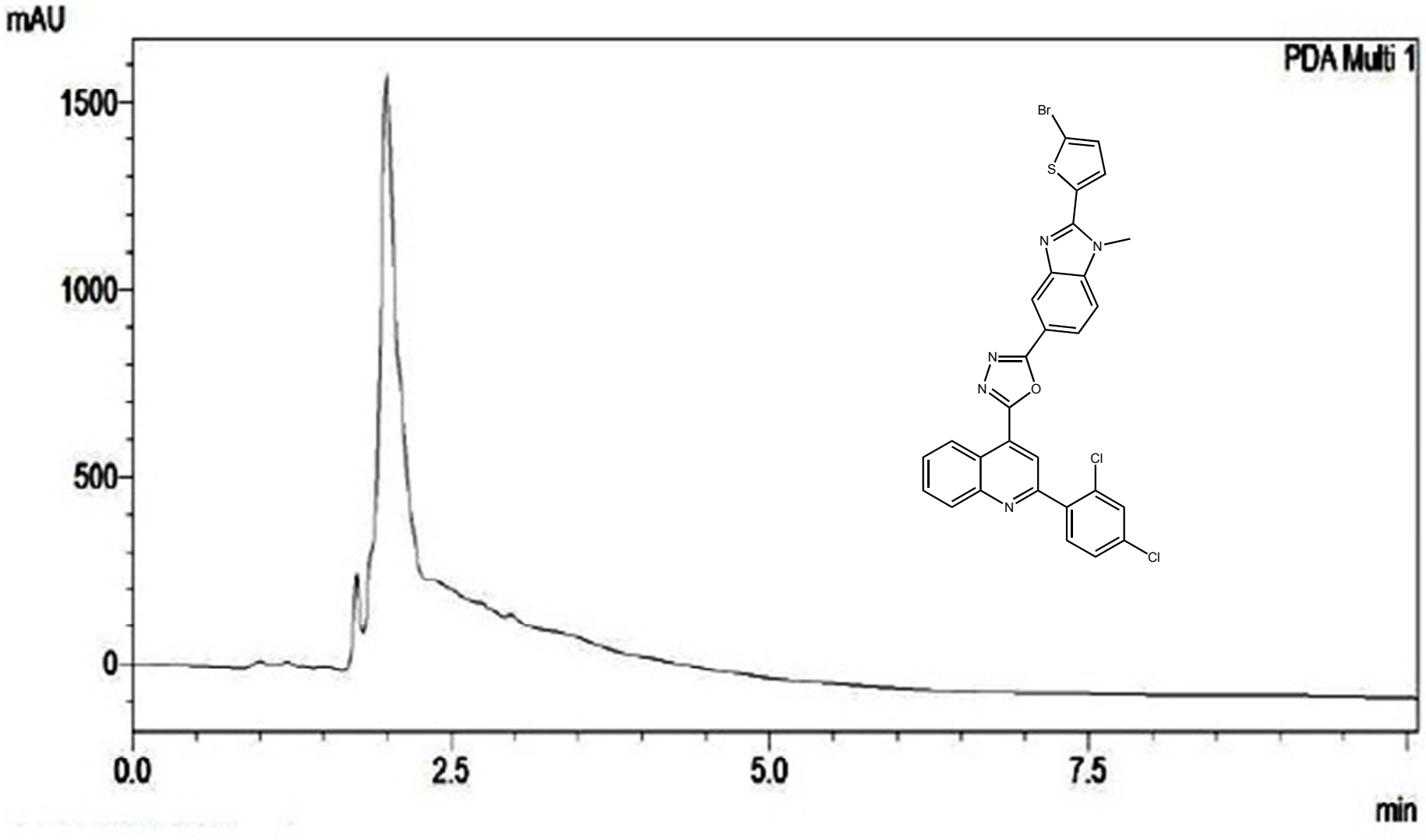

Figure S11: RP-HPLC of compound 2-(2-(5-bromothiophen-2-yl)-1-methyl-1H-benzo[d]imidazol-5-yl)-5-(2-(2,4-dichlorophenyl)quinolin-4-yl)-1,3,4-oxadiazole (8d)