

Supporting Information

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Synthesis, spectral characterization and biological evaluation of carbamate and sulfonamide derivatives of *cis*-tramadol

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Table of Contents	Page
Figure S1: IR spectrum of compound 5b	2
Figure S2: 1H NMR spectrum of compound 5b	3
Figure S3: 13C NMR spectrum of compound 5b	4
Figure S4: CHN analysis of compound 5b	5
Figure S5: IR spectrum of compound 7d	6
Figure S6: 1H NMR spectrum of compound 7d	7
Figure S7: 13C NMR spectrum of compound 7d	8
Figure S8: LC-MS spectrum of compound 7d	9
Figure S9: CHN analysis of compound 7d	10

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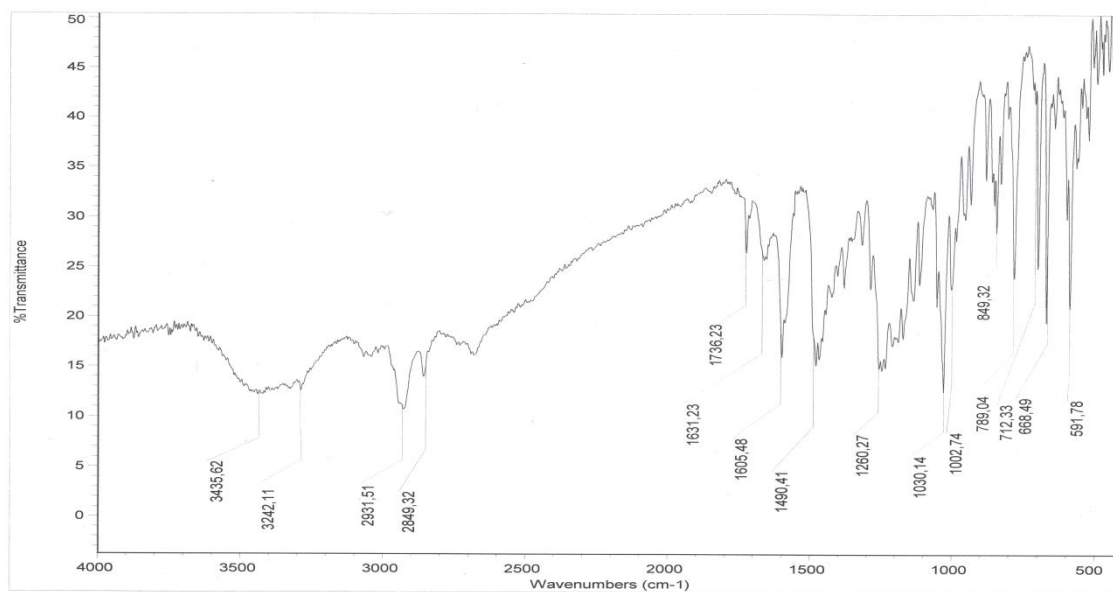


Figure S1: IR spectrum of compound **5b**

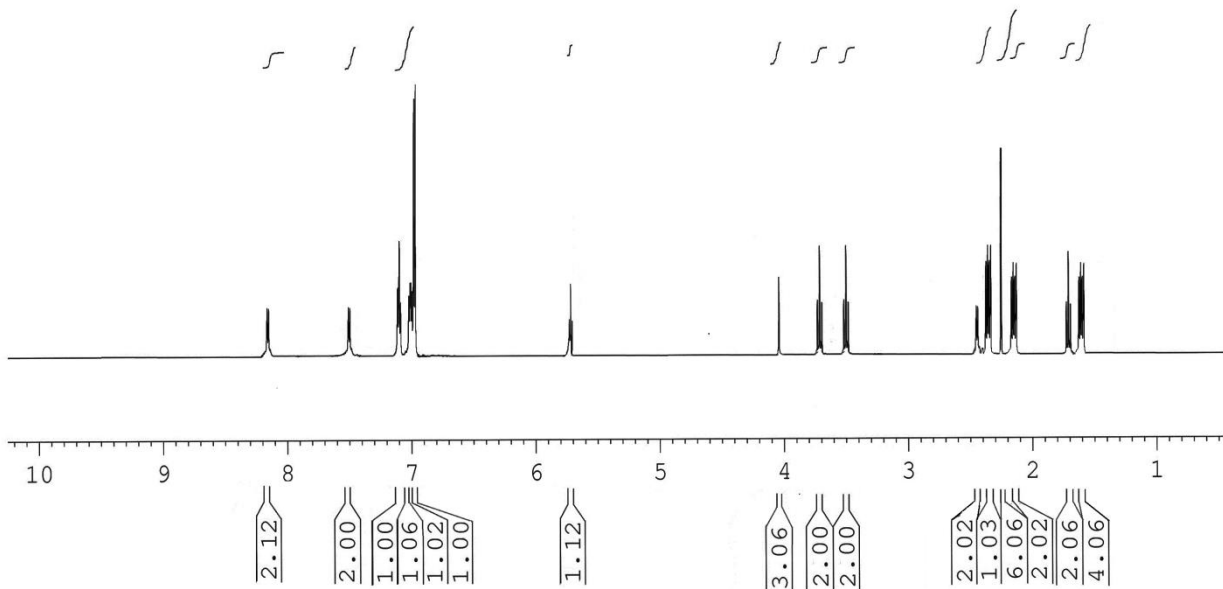


Figure S2: ¹H NMR spectrum of compound **5b**

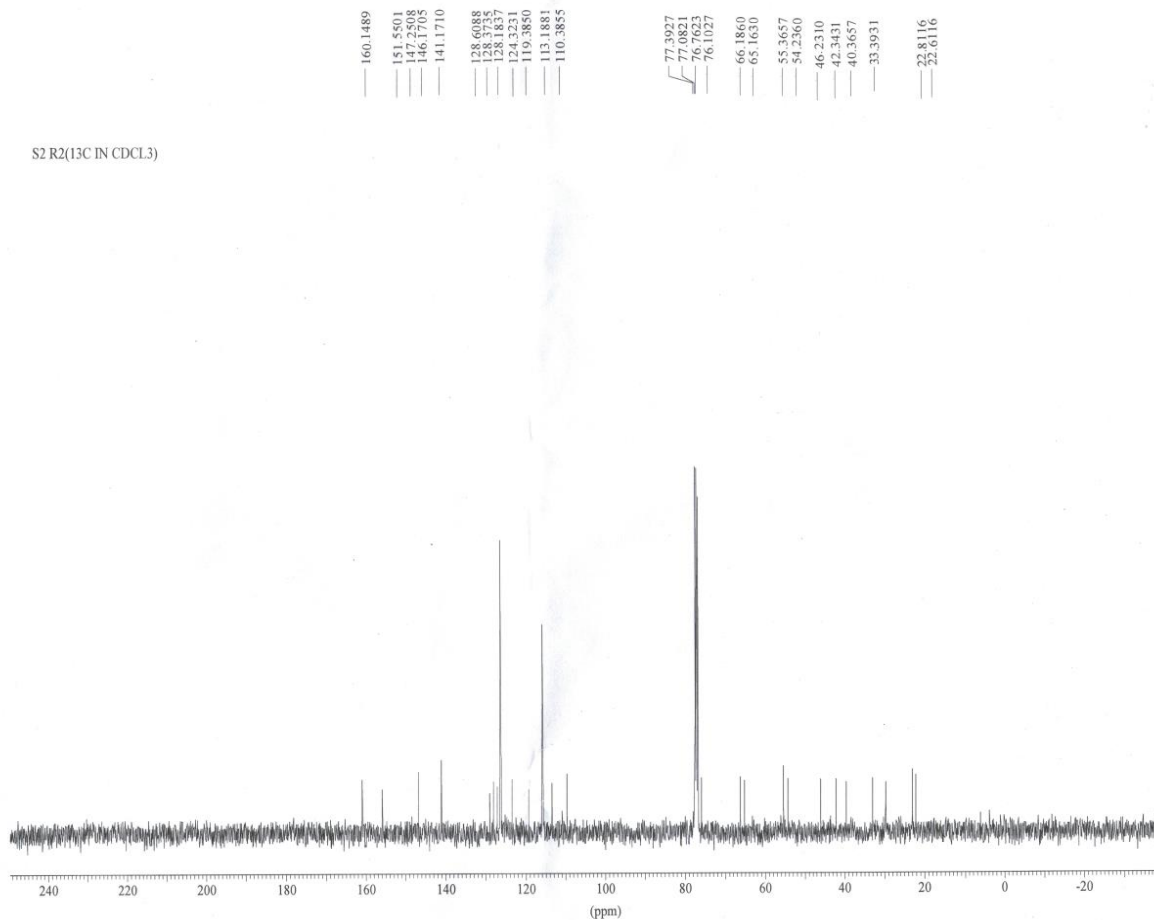
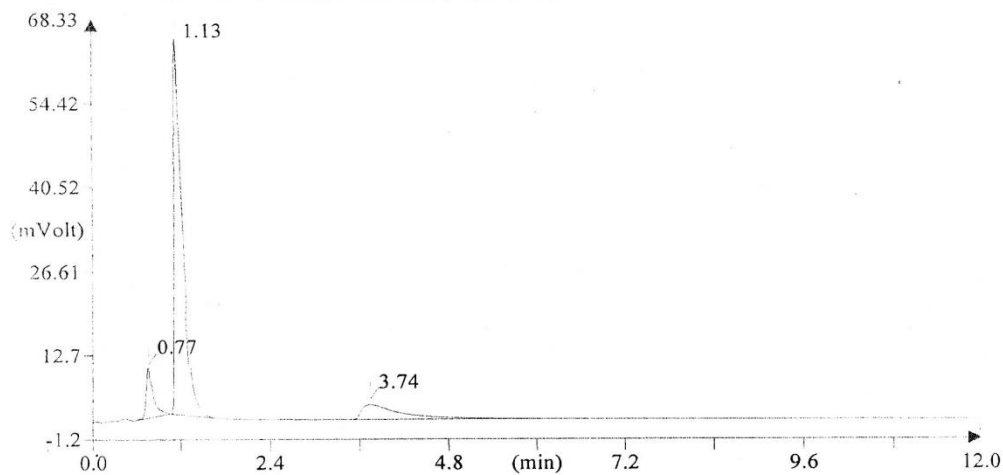


Figure S3: ^{13}C NMR spectrum of compound **5b**

FLASH EA 1112 SERIES CHN REPORT
THERMO FINNIGAN

Method filename: C:\Program Files\Thermo Finnigan\Eager 300 for EA1112\DATA\Sys_data_ex
Sample ID: S2R2 (# 2)
Analysis type: UnkNown
Chromatogram filename: UNK-16082012-2.dat
Sample weight: 1.365



Element Name	Element %	Ret. Time
Nitrogen	8.87	0.77
Carbon	63.61	1.13
Hydrogen	7.01	3.74

Figure S4: CHN analysis of compound **5b**

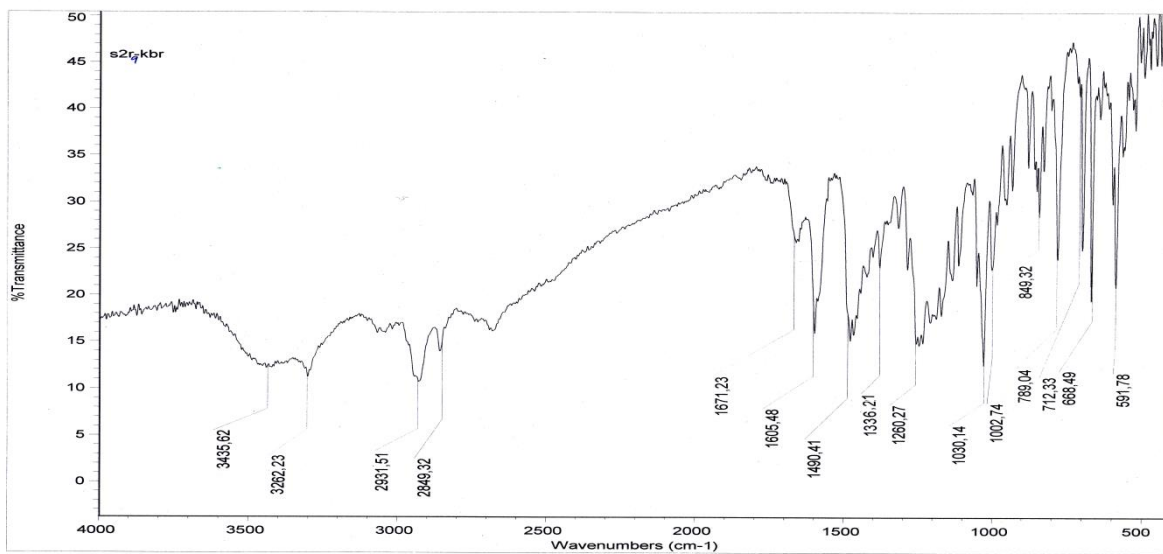


Figure S5: IR spectrum of compound **7d**

NAME MBC
EXPNO 3753
PROCNO 999
Date_ 20121101
Time 21.48
INSTRUM AV400
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 65536
SOLVENT cdcl3
NS 16
DS 2
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 28.5
DW 62.400 usec
DE 6.00 usec
TE 293.8 K
D1 1.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 10.00 usec
PL1 0.00 dB
SF01 400.1318754 MHz
SI 32768
SF 400.1300069 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

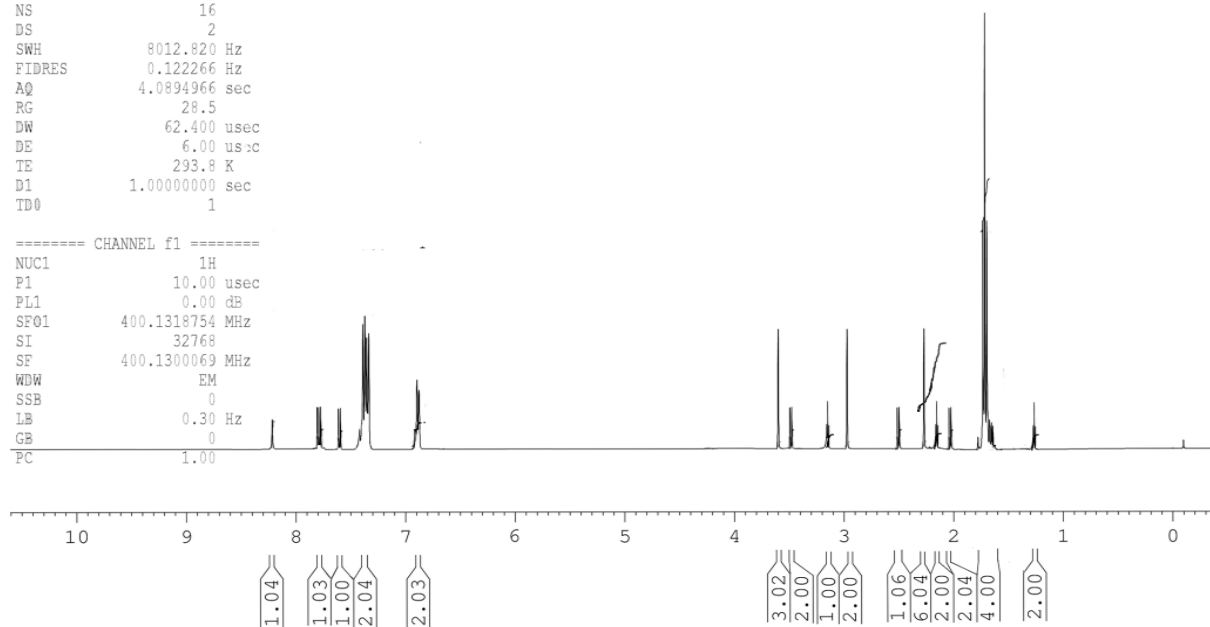


Figure S6: ¹H NMR spectrum of compound **7d**

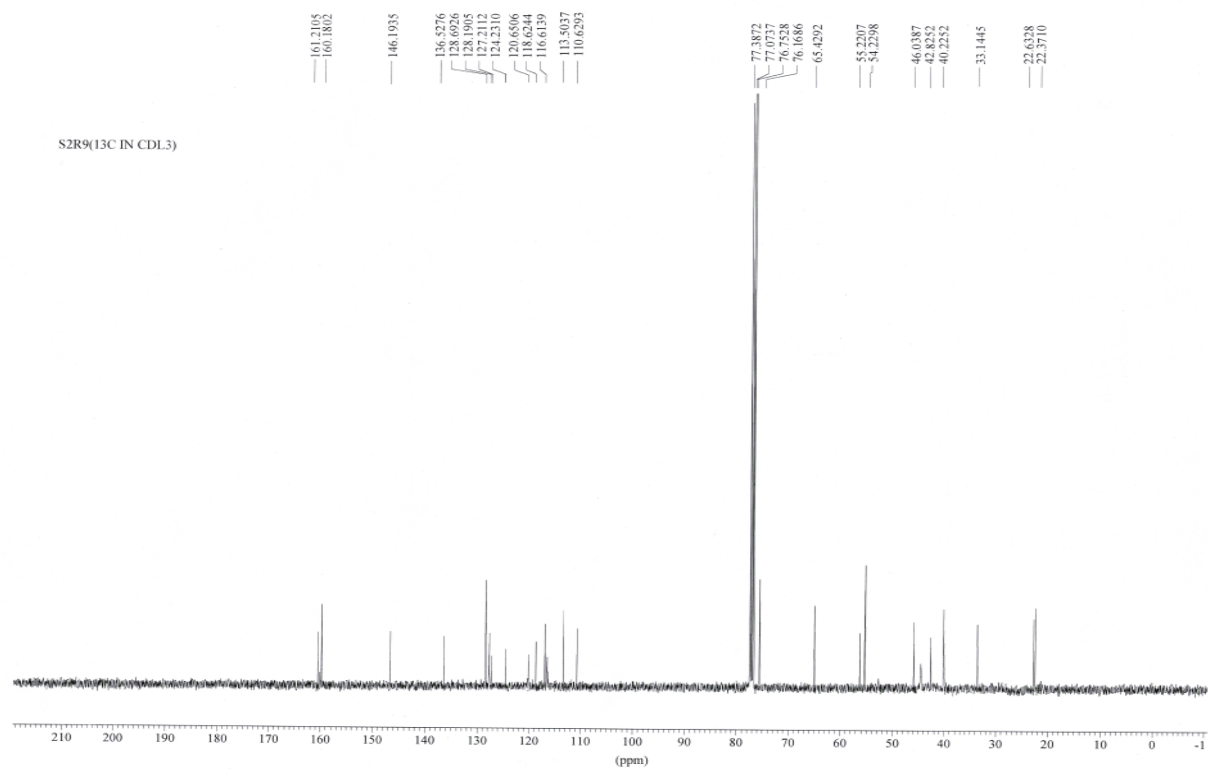
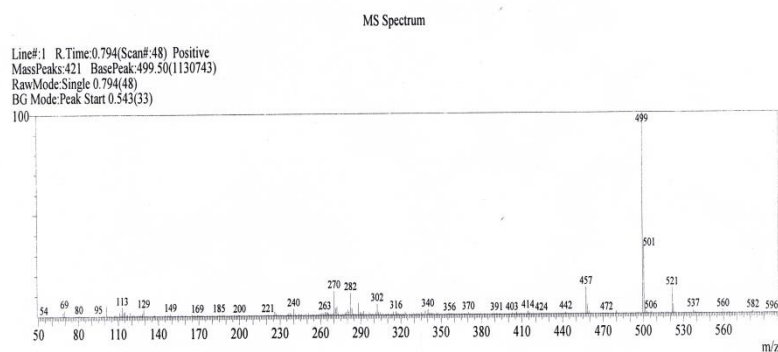
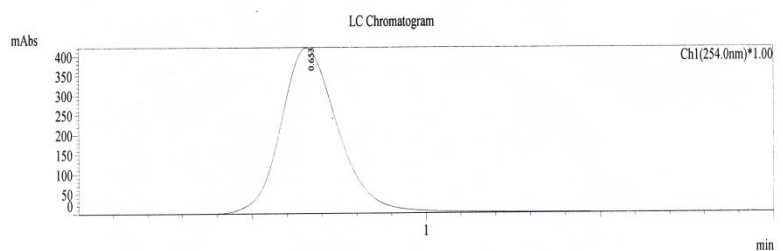


Figure S7: ^{13}C NMR spectrum of compound **7d**

LCMS-2010A DATA REPORT SHIMADZU

User : Admin
 Sample : S2R9
 Inj. Volume : 5.000
 Data Name : C:\LCMSsolution\User\Data\S2R9-APCI-POS1.qld
 Method Name : C:\LCMSsolution\User\Method\esi.qlm

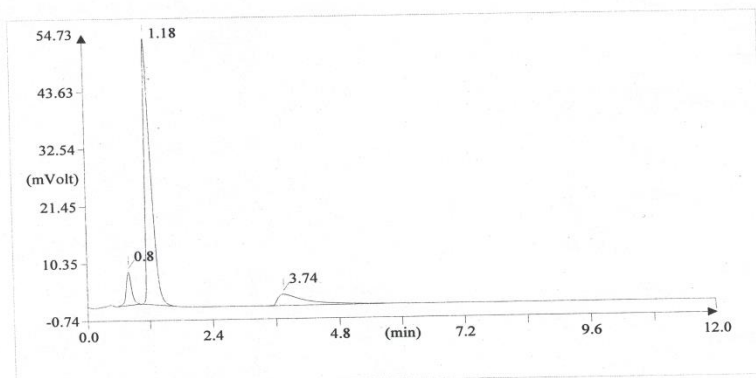


Peak#	R.Time	I.Time	F.Time	Area	Height	A/H	Mark	%Total	Name	Base m/z	Base Int.
1	0.794	0.543	0.993	28533222	2359114	12.09		100.00		499.50	1130743
				28533222	2359114			100.00			

Figure S8: LC-MS spectrum of compound **7d**

FLASH EA 1112 SERIES CHN REPORT
THERMO FINNIGAN

Method filename: C:\Program Files\Thermo Finnigan\Eager 300 for EA1112\DATA\Sys_data_ex
Sample ID: S2R9 (# 2)
Analysis type: UnkNown
Chromatogram filename: UNK-18122012-2.dat
Sample weight: 1.215



Element Name	Element %	Ret. Time
Nitrogen	5.56	0.80
Carbon	57.63	1.18
Hydrogen	6.41	3.74

Figure S9: CHN analysis of compound **7d**