

# Influence of Chromatographic Conditions on LOD and LOQ of Fluoxetine and Sertraline Analyzed by TLC-Densitometric Method

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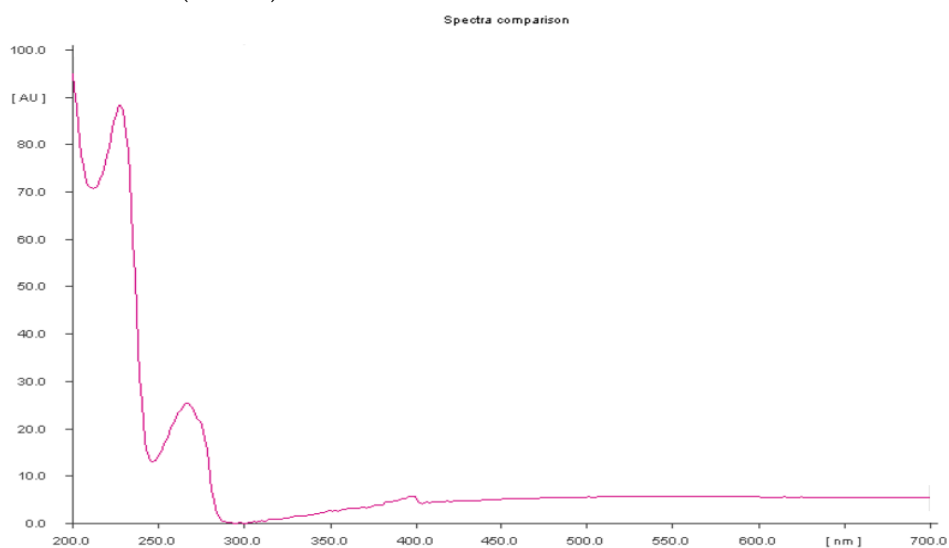


Figure S1. Spectrum of fluoxetine.

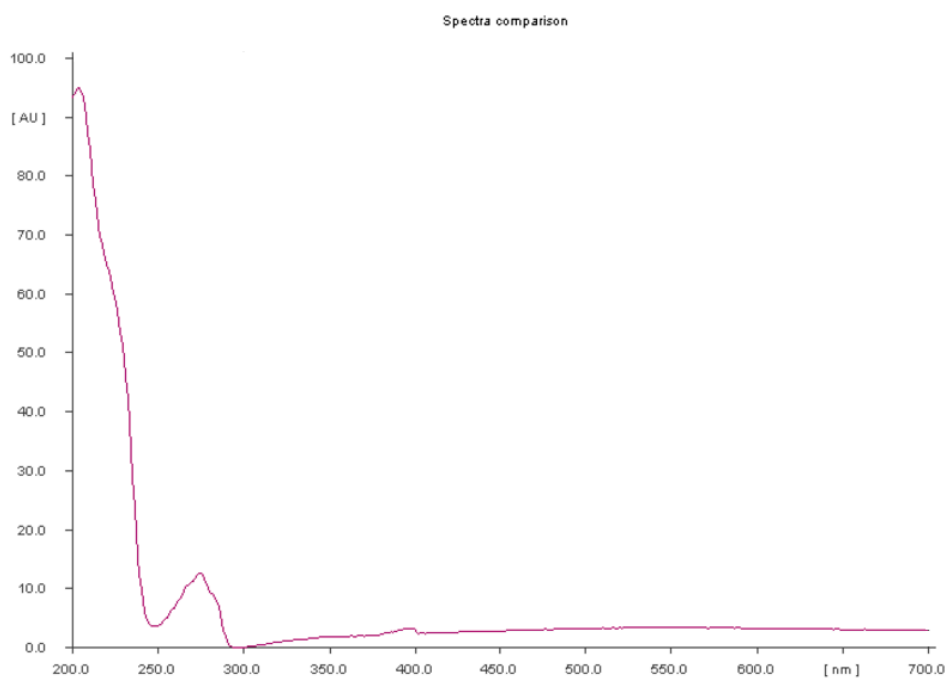


Figure S2. Spectrum of sertraline

**Table S1.** Concentrations of fluoxetine standard solutions used to determination of LOD and LOQ.

Symbol of mobile phase	Number of plates	Concentrations of fluoxetine standard [ $\mu\text{g/spot}$ ]		
<b>A</b>	1.05715	0.60	0.70	0.80
	1.05721	0.70	0.80	0.90
	1.05567	0.80	0.90	1.0
	1.05747	0.70	0.80	0.90
<b>B</b>	1.05715	0.60	0.70	0.80
	1.05721	0.60	0.70	0.80
	1.05567	0.60	0.70	0.80
	1.05747	0.60	0.70	0.80
<b>C</b>	1.05715	0.60	0.70	0.80
	1.05721	0.60	0.70	0.80
	1.05567	0.60	0.70	0.80
	1.05747	0.60	0.70	0.80
<b>D</b>	1.05559	0.60	0.70	0.80
	1.05747	0.80	0.90	1.00
<b>E</b>	1.05559	0.60	0.70	0.80
	1.05747	0.80	0.90	1.0
<b>F</b>	1.05559	0.80	0.90	1.0
	1.05747	0.60	0.70	0.80
<b>G</b>	1.05559	0.70	0.80	0.90
	1.05747	0.70	0.80	0.90

**Mobile phases:** **A** chloroform + methanol + ammonia- 9:1:0.4 (v/v/v); **B**- chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v); **C**- acetone + toluene + ammonia- 10:9:1 (v/v/v); **D**- methanol + water 10:0 (v/v); **E**- methanol + water 9:1 (v/v); **F**- acetone + water 10:0 (v/v); **G**- acetone + water - 9:1 (v/v).  
**Chromatographic plates:** 1.05715 – silica gel 60 F<sub>254</sub> on glass plates; 1.05721 silica gel 60 on glass plates; 1.05567 – mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminium plates; 1.05747 – silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates; 1.05559 – silica gel RP-18F<sub>254</sub> on aluminium plates

**Table S2.** Concentrations of sertraline standard solutions used to determination of LOD and LOQ.

Symbol of mobile phase	Number of plates	Concentrations of sertraline standard [ $\mu\text{g}/\text{spot}$ ]		
B	1.05715	0.40	0.60	0.80
	1.05721	0.40	0.60	0.80
	1.05567	0.40	0.60	0.80
	1.05747	0.40	0.60	0.80
C	1.05715	0.40	0.60	0.80
	1.05721	0.40	0.60	0.80
	1.05567	0.40	0.60	0.80
	1.05747	0.40	0.60	0.80
D	1.05559	0.20	0.40	0.60
	1.05747	0.20	0.40	0.60
E	1.05559	0.20	0.40	0.60
	1.05747	0.20	0.40	0.60
F	1.05559	0.20	0.40	0.60
	1.05747	0.20	0.40	0.60
G	1.05559	0.20	0.40	0.60
	1.05747	0.40	0.60	0.80

**Mobile phases:** **A** chloroform + methanol + ammonia- 9:1:0.4 (v/v/v); **B**- chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v); **C**- acetone + toluene + ammonia- 10:9:1 (v/v/v); **D**- methanol + water 10:0 (v/v); **E**- methanol + water 9:1 (v/v); **F**- acetone + water 10:0 (v/v); **G**- acetone + water - 9:1 (v/v).  
**Chromatographic plates:** 1.05715 – silica gel 60 F<sub>254</sub> on glass plates; 1.05721 silica gel 60 on glass plates; 1.05567 – mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminium plates; 1.05747 – silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates; 1.05559 – silica gel RP-18F<sub>254</sub> on aluminium plates

**Table S3.** Results for fluoxetine obtained by NP-TLC technique using silica gel 60F<sub>254</sub> on glass plates (#1.05715) and chloroform + methanol + ammonia (9: 1: 0.4, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	1518	2097	2376
	1691	2129	2485
	1588	2058	2399
Average value of spot area of fluoxetine [AU]	1599	2095	2420
Standard deviation [AU]	87.0	35.6	57.5
Coefficient of variation [%]	5.44	1.70	2.37
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-835.6		
Slope ( $S$ )	4105.0		
Correlation coefficient	0.9814		
Standard deviation of intercept ( $\sigma_a$ )	214.2		
Standard deviation of slope ( $\sigma_b$ )	303.9		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	74.4		

**Table S4.** Results for fluoxetine obtained by NP-TLC technique using silica gel 60 on glass plates (#1.05721) and chloroform + methanol + ammonia (9: 1: 0.4, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.70	0.80	0.90
Spot area of fluoxetine [AU]	1292	2068	2870
	1345	2145	2941
	1128	2247	2783
Average value of spot area of fluoxetine [AU]	1255	2153	2865
Standard deviation [AU]	113.1	89.8	79.1
Coefficient of variation [%]	9.01	4.17	2.76
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-4347.7		
Slope ( $S$ )	8048.3		
Correlation coefficient	0.9909		
Standard deviation of intercept ( $\sigma_a$ )	332.3		
Standard deviation of slope ( $\sigma_b$ )	413.3		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	101.2		

**Table S5.** Results for fluoxetine obtained by NP-TLC technique using mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminum plates (#1.05567) and chloroform + methanol + ammonia (9: 1: 0.4, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.80	0.90	1.00
	1568	1802	2189
Spot area of fluoxetine [AU]	1685	1871	2079
	1499	1817	2251
Average value of spot area of fluoxetine [AU]	1584	1830	2173
Standard deviation [AU]	94.0	36.3	87.1
Coefficient of variation [%]	5.94	1.98	4.01
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-788.2		
Slope ( $S$ )	2945.0		
Correlation coefficient	0.9635		
Standard deviation of intercept ( $\sigma_a$ )	279.6		
Standard deviation of slope ( $\sigma_b$ )	309.4		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	75.8		

**Table S6.** Results for fluoxetine obtained by NP-TLC technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and chloroform + methanol + ammonia (9: 1: 0.4, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.70	0.80	0.90
	2382	2681	3309
Spot area of fluoxetine [AU]	2125	2722	3222
	2247	2589	3132
Average value of spot area of fluoxetine [AU]	2251	2664	3221
Standard deviation [AU]	128.6	68.1	88.5
Coefficient of variation [%]	5.71	2.56	2.75
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-1166.6		
Slope ( $S$ )	4848.3		
Correlation coefficient	0.9766		
Standard deviation of intercept ( $\sigma_a$ )	324.6		
Standard deviation of slope ( $\sigma_b$ )	403.6		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	98.9		

**Table S7.** Results for fluoxetine obtained by NP-TLC technique using silica gel 60F<sub>254</sub> on glass plates (#1.05715) and chloroform + methanol + glacial acetic acid (5:4:1 v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	1025	1542	1725
	1141	1487	1725
	1218	1502	1843
Average value of spot area of fluoxetine [AU]	1128	1510	1764
Standard deviation [AU]	97.2	28.4	68.1
Coefficient of variation [%]	8.61	1.88	3.86
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )			-759.6
Slope ( $S$ )			3181.7
Correlation coefficient			0.9701
Standard deviation of intercept ( $\sigma_a$ )			212.0
Standard deviation of slope ( $\sigma_b$ )			300.8
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )			73.7

**Table S8.** Results for fluoxetine obtained by NP-TLC technique using silica gel 60 on glass plates (#1.05721) and chloroform + methanol + glacial acetic acid (5:4:1 v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	1083	1825	2368
	1125	2021	2455
	1189	2125	2523
Average value of spot area of fluoxetine [AU]	1132	1990	2449
Standard deviation [AU]	53.4	152.3	77.7
Coefficient of variation [%]	4.71	7.65	3.17
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )			-2750.1
Slope ( $S$ )			6581.7
Correlation coefficient			0.9734
Standard deviation of intercept ( $\sigma_a$ )			412.7
Standard deviation of slope ( $\sigma_b$ )			585.6
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )			143.5

**Table S9.** Results for fluoxetine obtained by NP-TLC technique using mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminum plates (#1.05567) and chloroform + methanol + glacial acetic acid (5:4:1 v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0,60	0,70	0,80
Spot area of fluoxetine [AU]	1120	1336	1503
	1157	1314	1487
	1118	1388	1555
Average value of spot area of fluoxetine [AU]	1132	1346	1515
Standard deviation [AU]	22.0	38.0	35.6
Coefficient of variation [%]	1.94	2.82	2.35
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )		-10.8	
Slope ( $S$ )		1916.7	
Correlation coefficient		0.9836	
Standard deviation of intercept ( $\sigma_a$ )		93.6	
Standard deviation of slope ( $\sigma_b$ )		132.8	
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )		32.5	

**Table S10.** Results for fluoxetine obtained by NP-TLC technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and chloroform + methanol + glacial acetic acid (5:4:1 v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	2108	2208	2432
	1992	2229	2533
	2046	2324	2622
Average value of spot area of fluoxetine [AU]	2049	2254	2529
Standard deviation [AU]	58.0	61.8	95.1
Coefficient of variation [%]	2.83	2.74	3.76
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )		595.9	
Slope ( $S$ )		2401.7	
Correlation coefficient		0.9530	
Standard deviation of intercept ( $\sigma_a$ )		203.2	
Standard deviation of slope ( $\sigma_b$ )		288.4	
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )		70.6	

**Table S11.** Results for fluoxetine obtained by NP-TLC technique using silica gel 60F<sub>254</sub> on glass plates (#1.05715) and acetone + toluene + ammonia (10:9:1, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	912	1089	1254
	972	1175	1234
	1021	1182	1321
Average value of spot area of fluoxetine [AU]	968	1149	1270
Standard deviation [AU]	54.6	51.8	45.6
Coefficient of variation [%]	5.64	4.51	3.59
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	74.2		
Slope ( $S$ )	1506.7		
Correlation coefficient	0.9422		
Standard deviation of intercept ( $\sigma_a$ )	142.8		
Standard deviation of slope ( $\sigma_b$ )	202.6		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	49.6		

**Table S12.** Results for fluoxetine obtained by NP-TLC technique using silica gel 60 on glass plates (#1.05721) and acetone + toluene + ammonia (10:9:1, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	1527	1817	1974
	1588	1756	2008
	1489	1721	2087
Average value of spot area of fluoxetine [AU]	1535	1765	2023
Standard deviation [AU]	49.9	48.6	58.0
Coefficient of variation [%]	3.25	2.75	2.87
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	64.9		
Slope ( $S$ )	2441.7		
Correlation coefficient	0.9773		
Standard deviation of intercept ( $\sigma_a$ )	141.1		
Standard deviation of slope ( $\sigma_b$ )	200.2		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	49.0		



**Table S13.** Results for fluoxetine obtained by NP-TLC technique using mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminum plates (#1.05567) and acetone + toluene + ammonia (10:9:1, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	1018	1342	1693
	1161	1294	1593
	1085	1152	1625
Average value of spot area of fluoxetine [AU]	1088	1263	1637
Standard deviation [AU]	71.5	98.8	51.1
Coefficient of variation [%]	6.58	7.82	3.12
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-592.3		
Slope ( $S$ )	2745.0		
Correlation coefficient	0.9443		
Standard deviation of intercept ( $\sigma_a$ )	254.8		
Standard deviation of slope ( $\sigma_b$ )	361.6		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	88.6		

**Table S14.** Results for fluoxetine obtained by NP-TLC technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and acetone + toluene + ammonia (10:9:1, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	1820	2120	2455
	1789	2208	2491
	1829	2189	2525
Average value of spot area of fluoxetine [AU]	1813	2172	2490
Standard deviation [AU]	21.0	46.3	35.0
Coefficient of variation [%]	1.16	2.13	1.41
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-213.4		
Slope ( $S$ )	3388.3		
Correlation coefficient	0.9939		
Standard deviation of intercept ( $\sigma_a$ )	100.2		
Standard deviation of slope ( $\sigma_b$ )	142.2		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	34.8		

**Table S15.** Results for fluoxetine obtained by RP-TLC technique using silica gel RP-18F<sub>254</sub> on aluminum plates (#1.05559) and methanol+water (10:0, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	3223	3388	3920
	3313	3450	4120
	3025	3560	4025
Average value of spot area of fluoxetine [AU]	3187	3466	4022
Standard deviation [AU]	147.3	87.1	100.0
Coefficient of variation [%]	4.62	2.51	2.49
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	636.9		
Slope ( $S$ )	4173.3		
Correlation coefficient	0.9484		
Standard deviation of intercept ( $\sigma_a$ )	371.8		
Standard deviation of slope ( $\sigma_b$ )	527.5		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	129.2		

**Table S16.** Results for fluoxetine obtained by RP-TLC technique using technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and methanol+water (10:0, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	1.00	0.90	0.80
Spot area of fluoxetine [AU]	4355	3498	2324
	4599	3125	2489
	4489	3587	2189
Average value of spot area of fluoxetine [AU]	4481	3403	2334
Standard deviation [AU]	122.2	245.1	150.2
Coefficient of variation [%]	2.73	7.20	6.44
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-6255.4		
Slope ( $S$ )	10735.0		
Correlation coefficient	0.9862		
Standard deviation of intercept ( $\sigma_a$ )	616.1		
Standard deviation of slope ( $\sigma_b$ )	681.8		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	166.9		

**Table S17.** Results for fluoxetine obtained by RP-TLC technique using silica gel RP-18F<sub>254</sub> on aluminum plates (#1.05559) and methanol+water (9:1, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.70	0.80
Spot area of fluoxetine [AU]	1440	1841	2245
	1645	1945	2321
	1558	2021	2199
Average value of spot area of fluoxetine [AU]	1548	1936	2255
Standard deviation [AU]	102.9	90.4	61.6
Coefficient of variation [%]	6.65	4.67	2.73
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-562.9		
Slope ( $S$ )	3536.7		
Correlation coefficient	0.9698		
Standard deviation of intercept ( $\sigma_a$ )	236.9		
Standard deviation of slope ( $\sigma_b$ )	336.1		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	82.3		

**Table S18.** Results for fluoxetine obtained by RP-TLC technique using technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and methanol+water (9:1, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	1.00	0.90	0.80
Spot area of fluoxetine [AU]	3091	2649	1525
	3245	2543	1788
	3455	2388	1481
Average value of spot area of fluoxetine [AU]	3264	2527	1598
Standard deviation [AU]	182.7	131.3	166.0
Coefficient of variation [%]	5.60	5.20	10.39
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-5032.7		
Slope ( $S$ )	8328.3		
Correlation coefficient	0.9796		
Standard deviation of intercept ( $\sigma_a$ )	582.9		
Standard deviation of slope ( $\sigma_b$ )	644.9		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	157.9		

**Table S19.** Results for fluoxetine obtained by RP-TLC technique using silica gel RP-18F<sub>254</sub> on aluminum plates (#1.05559) and acetone+water (10:0, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	1.00	0.90	0.80
Spot area of fluoxetine [AU]	2668	2199	1785
	2453	2045	1685
	2345	1988	1585
Average value of spot area of fluoxetine [AU]	2489	2077	1685
Standard deviation [AU]	164.4	109.2	100.0
Coefficient of variation [%]	6.61	5.25	5.93
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-1532.8		
Slope ( $S$ )	4018.3		
Correlation coefficient	0.9529		
Standard deviation of intercept ( $\sigma_a$ )	436.7		
Standard deviation of slope ( $\sigma_b$ )	483.3		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	118.4		

**Table S20.** Results for fluoxetine obtained by RP-TLC technique using technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and acetone+water (10:0, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.80	0.70	0.60
Spot area of fluoxetine [AU]	2435	2161	1745
	2289	1943	1466
	2378	2002	1501
Average value of spot area of fluoxetine [AU]	2367	2035	1571
Standard deviation [AU]	73.6	112.8	152.0
Coefficient of variation [%]	3.11	5.54	9.68
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-797.2		
Slope ( $S$ )	3983.3		
Correlation coefficient	0.9553		
Standard deviation of intercept ( $\sigma_a$ )	328.5		
Standard deviation of slope ( $\sigma_b$ )	466.1		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	114.2		

**Table S21.** Results for fluoxetine obtained by RP-TLC technique using silica gel RP-18F<sub>254</sub> on aluminum plates (#1.05559) and acetone+water (9:1, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.90	0.80	0.70
Spot area of fluoxetine [AU]	2456	2054	1499
	2589	1878	1648
	2312	1901	1721
Average value of spot area of fluoxetine [AU]	2452	1944	1623
Standard deviation [AU]	138.5	95.7	113.1
Coefficient of variation [%]	5.65	4.92	6.97
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-1312.2		
Slope ( $S$ )	4148.3		
Correlation coefficient	0.9550		
Standard deviation of intercept ( $\sigma_a$ )	391.7		
Standard deviation of slope ( $\sigma_b$ )	487.1		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	119.3		

**Table S22.** Results for fluoxetine obtained by RP-TLC technique using technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and acetone+water (9:1, v/v/v) as mobile phase.

Amount of fluoxetine spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.90	0.80	0.70
Spot area of fluoxetine [AU]	1895	1569	1238
	2125	1724	1353
	2087	1623	1187
Average value of spot area of fluoxetine [AU]	2036	1639	1259
Standard deviation [AU]	123.3	78.7	85.0
Coefficient of variation [%]	6.06	4.80	6.75
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	-1460.8		
Slope ( $S$ )	3881.7		
Correlation coefficient	0.9697		
Standard deviation of intercept ( $\sigma_a$ )	297.3		
Standard deviation of slope ( $\sigma_b$ )	369.7		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	90.6		

**Table S23.** Results for sertraline obtained by NP-TLC technique using silica gel 60 on glass plates (#1.05721) and chloroform + methanol + glacial acetic acid (5:4:1 v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.40	0.60	0.80
Spot area of sertraline [AU]	3159	4163	5346
	3015	3897	5240
	2989	3965	5189
Average value of spot area of sertraline [AU]	3054	4008	5258
Standard deviation [AU]	91.6	138.2	80.1
Coefficient of variation [%]	3.00	3.45	1.52
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	801.0		
Slope ( $S$ )	5510.0		
Correlation coefficient	0.9924		
Standard deviation of intercept ( $\sigma_a$ )	160.3		
Standard deviation of slope ( $\sigma_b$ )	257.7		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	126.3		

**Table S24.** Results for sertraline obtained by NP-TLC technique using silica gel 60 on glass plates (#1.05721) and chloroform + methanol + glacial acetic acid (5:4:1 v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.40	0.60	0.80
Spot area of sertraline [AU]	4742	5350	6022
	4896	5422	5924
	4784	5524	5823
Average value of spot area of sertraline [AU]	4807	5432	5923
Standard deviation [AU]	79.6	87.4	99.5
Coefficient of variation [%]	1.66	1.61	1.68
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	3713.9		
Slope ( $S$ )	2789.2		
Correlation coefficient	0.9851		
Standard deviation of intercept ( $\sigma_a$ )	114.2		
Standard deviation of slope ( $\sigma_b$ )	183.7		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	89.9		

**Table S25.** Results for sertraline obtained by NP-TLC technique using mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminum plates (#1.05567) and chloroform + methanol + glacial acetic acid (5:4:1 v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.40	0.60	0.80
Spot area of sertraline [AU]	1931	3184	3501
	2009	2898	3622
	2089	3058	3428
Average value of spot area of sertraline [AU]	2010	3047	3517
Standard deviation [AU]	79.0	143.3	98.0
Coefficient of variation [%]	3.93	4.70	2.79
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
<i>Intercept (a)</i>			596.8
<i>Slope (S)</i>			3768.3
<i>Correlation coefficient</i>			0.9674
<i>Standard deviation of intercept (<math>\sigma_a</math>)</i>			231.7
<i>Standard deviation of slope (<math>\sigma_b</math>)</i>			372.7
<i>Residual standard deviation of calibration curve (<math>\sigma_{xy}</math>)</i>			182.6

**Table S26.** Results for sertraline obtained by NP-TLC technique using silica gel 60F<sub>254</sub> on glass plates (#1.05715) and acetone + toluene + ammonia (10:9:1, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.40	0.60	0.80
Spot area of sertraline [AU]	2361	3281	3919
	2274	3482	3876
	2385	3321	3985
Average value of spot area of sertraline [AU]	2340	3361	3927
Standard deviation [AU]	58.4	106.4	54.9
Coefficient of variation [%]	2.50	3.17	1.40
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
<i>Intercept (a)</i>			829.3
<i>Slope (S)</i>			3966.7
<i>Correlation coefficient</i>			0.9820
<i>Standard deviation of intercept (<math>\sigma_a</math>)</i>			179.2
<i>Standard deviation of slope (<math>\sigma_b</math>)</i>			288.1
<i>Residual standard deviation of calibration curve (<math>\sigma_{xy}</math>)</i>			141.2

**Table S27.** Results for sertraline obtained by NP-TLC technique using silica gel 60 on glass plates (#1.05721) and acetone + toluene + ammonia (10:9:1, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.40	0.60	0.80
Spot area of sertraline [AU]	2962	4643	5977
	3254	4368	6224
	3125	4510	6325
Average value of spot area of sertraline [AU]	3114	4507	6175
Standard deviation [AU]	146.3	137.5	179.0
Coefficient of variation [%]	4.70	3.05	2.90
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	6.2		
Slope ( $S$ )	7654.2		
Correlation coefficient	0.9936		
Standard deviation of intercept ( $\sigma_a$ )	204.9		
Standard deviation of slope ( $\sigma_b$ )	329.7		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	161.5		

**Table S28.** Results for sertraline obtained by NP-TLC technique using mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminum plates (#1.05567) and acetone + toluene + ammonia (10:9:1, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.40	0.60	0.80
Spot area of sertraline [AU]	2969	3203	4122
	2788	3005	3922
	2945	3125	4026
Average value of spot area of sertraline [AU]	2901	3111	4023
Standard deviation [AU]	98.3	99.7	100.0
Coefficient of variation [%]	3.39	3.21	2.49
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	1661.0		
Slope ( $S$ )	2806.7		
Correlation coefficient	0.9278		
Standard deviation of intercept ( $\sigma_a$ )	265.2		
Standard deviation of slope ( $\sigma_b$ )	426.5		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	208.9		



**Table S29.** Results for sertraline obtained by NP-TLC technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and acetone + toluene + ammonia (10:9:1, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.40	0.60	0.80
Spot area of sertraline [AU]	2158	3629	4499
	2549	3743	4551
	2345	3721	4602
Average value of spot area of sertraline [AU]	2351	3698	4551
Standard deviation [AU]	195.6	60.5	51.5
Coefficient of variation [%]	8.32	1.64	1.13
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	233.0		
Slope ( $S$ )	5500.0		
Correlation coefficient	0.9858		
Standard deviation of intercept ( $\sigma_a$ )	220.4		
Standard deviation of slope ( $\sigma_b$ )	354.5		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	173.7		

**Table S30.** Results for sertraline obtained by RP-TLC technique using silica gel RP-18F<sub>254</sub> on aluminum plates (#1.05559) and methanol+water (10:0, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.40	0.20
Spot area of sertraline [AU]	6890	4937	3048
	7388	4703	2890
	6954	4825	2978
Average value of spot area of sertraline [AU]	7077	4822	2972
Standard deviation [AU]	270.9	117.0	79.2
Coefficient of variation [%]	3.83	2.43	2.66
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	851.7		
Slope ( $S$ )	10263.3		
Correlation coefficient	0.9947		
Standard deviation of intercept ( $\sigma_a$ )	172.9		
Standard deviation of slope ( $\sigma_b$ )	400.3		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	196.1		

**Table S31.** Results for sertraline obtained by RP-TLC technique using technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and methanol+water (10:0, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.40	0.20
Spot area of sertraline [AU]	4990	3657	1992
	4978	3699	1648
	4928	3771	1687
Average value of spot area of sertraline [AU]	4965	3709	1776
Standard deviation [AU]	32.9	57.7	188.4
Coefficient of variation [%]	0.66	1.55	10.61
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )			293.7
Slope ( $S$ )			7974.2
Correlation coefficient			0.9900
Standard deviation of intercept ( $\sigma_a$ )			185.3
Standard deviation of slope ( $\sigma_b$ )			428.8
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )			210.1

**Table S32.** Results for sertraline obtained by RP-TLC technique using silica gel RP-18F<sub>254</sub> on aluminum plates (#1.05559) and methanol+water (9:1, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.40	0.20
Spot area of sertraline [AU]	5079	3622	1782
	5427	3458	1778
	5444	4205	1807
Average value of spot area of sertraline [AU]	5317	3762	1789
Standard deviation [AU]	206.0	392.6	15.7
Coefficient of variation [%]	3.87	10.44	0.88
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )			94.8
Slope ( $S$ )			8819.2
Correlation coefficient			0.9874
Standard deviation of intercept ( $\sigma_a$ )			231.2
Standard deviation of slope ( $\sigma_b$ )			535.0
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )			262.1

**Table S33.** Results for sertraline obtained by RP-TLC technique using technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and methanol+water (9:1, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.40	0.20
Spot area of sertraline [AU]	5468	3888	2068
	5609	3944	1883
	5498	3829	1925
Average value of spot area of sertraline [AU]	5525	3887	1959
Standard deviation [AU]	74.3	57.5	97.0
Coefficient of variation [%]	1.34	1.48	4.95
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )			223.9
Slope ( $S$ )			8915.8
Correlation coefficient			0.9979
Standard deviation of intercept ( $\sigma_a$ )			93.5
Standard deviation of slope ( $\sigma_b$ )			216.3
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )			106.0

**Table S34.** Results for sertraline obtained by RP-TLC technique using silica gel RP-18F<sub>254</sub> on aluminum plates (#1.05559) and acetone+water (10:0, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.40	0.20
Spot area of sertraline [AU]	6367	5662	4728
	6594	5511	4385
	6625	5871	4084
Average value of spot area of sertraline [AU]	6529	5681	4399
Standard deviation [AU]	140.9	180.8	322.2
Coefficient of variation [%]	2.16	3.18	7.33
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )			3406.7
Slope ( $S$ )			5324.2
Correlation coefficient			0.9713
Standard deviation of intercept ( $\sigma_a$ )			212.7
Standard deviation of slope ( $\sigma_b$ )			492.4
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )			241.2

**Table S35.** Results for sertraline obtained by RP-TLC technique using technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and acetone+water (10:0, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.40	0.20
Spot area of sertraline [AU]	5897	4421	1985
	5523	4366	2151
	5654	4021	1888
Average value of spot area of sertraline [AU]	5691	4269	2008
Standard deviation [AU]	189.8	216.8	133.0
Coefficient of variation [%]	3.33	5.08	6.62
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	306.2		
Slope ( $S$ )	9208.3		
Correlation coefficient	0.9867		
Standard deviation of intercept ( $\sigma_a$ )	248.0		
Standard deviation of slope ( $\sigma_b$ )	574.1		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	281.2		

**Table S36.** Results for sertraline obtained by RP-TLC technique using silica gel RP-18F<sub>254</sub> on aluminum plates (#1.05559) and acetone+water (9:1, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.60	0.40	0.20
Spot area of sertraline [AU]	6293	4864	3932
	5653	5125	3721
	5777	5087	4027
Average value of spot area of sertraline [AU]		5025	3893
Standard deviation [AU]	339.4	141.0	156.6
Coefficient of variation [%]	5.75	2.81	4.02
<b>Parameters characterizing the calibration curve used (<math>AU = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	2927.8		
Slope ( $S$ )	5035.8		
Correlation coefficient	0.9724		
Standard deviation of intercept ( $\sigma_a$ )	197.3		
Standard deviation of slope ( $\sigma_b$ )	456.7		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	223.7		

**Table S37.** Results for sertraline obtained by RP-TLC technique using technique using silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates (#1.05747) and acetone+water (9:1, v/v/v) as mobile phase.

Amount of sertraline spotted onto chromatographic plate [ $\mu\text{g/spot}$ ]	0.80	0.60	0.40
Spot area of sertraline [AU]	7524	5267	4249
	7245	5907	3825
	7356	6055	4082
Average value of spot area of sertraline [AU]	7375	5743	4052
Standard deviation [AU]	140.5	418.8	213.6
Coefficient of variation [%]	1.90	7.29	5.27
<b>Parameters characterizing the calibration curve used (<math>\text{AU} = a + S \cdot x</math>) to determine LOD and LOQ</b>			
Intercept ( $a$ )	738.8		
Slope ( $S$ )	8307.5		
Correlation coefficient	0.9857		
Standard deviation of intercept ( $\sigma_a$ )	333.5		
Standard deviation of slope ( $\sigma_b$ )	536.3		
Residual standard deviation of calibration curve ( $\sigma_{xy}$ )	262.8		

**Table S38.** Detection limit values and  $R_F$  values for fluoxetine obtained in different chromatographic systems.

Symbol of mobile phase	Number of plates	$R_F$ value	LOD [ $\mu\text{g}/\text{spot}$ ] calculated with		Average LOD value [ $\mu\text{g}/\text{spot}$ ]
			( $\sigma_a$ )	( $\sigma_{xy}$ )	
<b>A</b>	1.05715	0.56	0.172	0.060	0.116
	1.05721	0.65	0.136	0.041	0.089
	1.05567	0.80	0.313	0.084	0.199
	1.05747	0.84	0.221	0.067	0.144
<b>B</b>	1.05715	0.55	0.220	0.076	0.148
	1.05721	0.53	0.207	0.072	0.140
	1.05567	0.65	0.161	0.056	0.109
	1.05747	0.92	0.279	0.097	0.188
<b>C</b>	1.05715	0.23	0.312	0.109	0.211
	1.05721	0.24	0.191	0.066	0.129
	1.05567	0.48	0.306	0.106	0.206
	1.05747	0.65	0.098	0.034	0.066
<b>D</b>	1.05559	0.40	0.294	0.102	0.198
	1.05747	0.51	0.189	0.051	0.120
<b>E</b>	1.05559	0.38	0.221	0.077	0.149
	1.05747	0.28	0.231	0.063	0.147
<b>F</b>	1.05559	0.07	0.359	0.097	0.228
	1.05747	0.11	0.272	0.095	0.184
<b>G</b>	1.05559	0.42	0.312	0.095	0.204
	1.05747	0.23	0.253	0.077	0.165

**Mobile phases:** **A** chloroform + methanol + ammonia- 9:1:0.4 (v/v/v); **B**- chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v); **C**- acetone + toluene + ammonia- 10:9:1 (v/v/v); **D**- methanol + water 10:0 (v/v); **E**- methanol + water 9:1 (v/v); **F**- acetone + water 10:0 (v/v); **G**- acetone + water - 9:1 (v/v).  
**Chromatographic plates:** 1.05715 – silica gel 60 F<sub>254</sub> on glass plates; 1.05721 silica gel 60 on glass plates; 1.05567 – mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminium plates; 1.05747 – silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates; 1.05559 – silica gel RP-18F<sub>254</sub> on aluminium plates

**Table S39.** Detection limit values and  $R_F$  values for sertraline obtained in different chromatographic systems.

Symbol of mobile phase	Number of plates	$R_F$ value	LOD [ $\mu\text{g}/\text{spot}$ ] calculated with		Average LOD value [ $\mu\text{g}/\text{spot}$ ]
			( $\sigma_a$ )	( $\sigma_{xy}$ )	
<b>B</b>	1.05715	0.44	0.096	0.076	0.086
	1.05721	0.74	0.135	0.105	0.120
	1.05567	0.68	0.202	0.160	0.181
	1.05747	Sertraline migrate with front of mobile phase			
<b>C</b>	1.05715	0.67	0.150	0.117	0.134
	1.05721	0.63	0.088	0.070	0.079
	1.05567	0.78	0.312	0.245	0.279
	1.05747	0.92	0.132	0.104	0.118
<b>D</b>	1.05559	0.26	0.056	0.063	0.060
	1.05747	0.67	0.077	0.087	0.082
<b>E</b>	1.05559	0.25	0.086	0.098	0.092
	1.05747	0.40	0.035	0.039	0.037
<b>F</b>	1.05559	0.16	0.132	0.149	0.141
	1.05747	0.34	0.088	0.100	0.094
<b>G</b>	1.05559	0.40	0.129	0.146	0.138
	1.05747	0.35	0.132	0.104	0.118

**Mobile phases:** **B**- chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v); **C**- acetone + toluene + ammonia- 10:9:1 (v/v/v); **D**- methanol + water 10:0 (v/v); **E**- methanol + water 9:1 (v/v); **F**- acetone + water 10:0 (v/v); **G**- acetone + water - 9:1 (v/v).

**Chromatographic plates:** 1.05715 – silica gel 60 F<sub>254</sub> on glass plates; 1.05721 silica gel 60 on glass plates; 1.05567 – mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminium plates; 1.05747 – silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates; 1.05559 – silica gel RP-18F<sub>254</sub> on aluminium plates

**Table S40.** Quantification limit values for fluoxetine obtained in different chromatographic systems.

Symbol of mobile phase	Number of plates	LOQ [ $\mu\text{g}/\text{spot}$ ] calculated with		Average LOQ value [ $\mu\text{g}/\text{spot}$ ]
		( $\sigma_a$ )	( $\sigma_{xy}$ )	
<b>A</b>	1.05715	0.522	0.181	0.352
	1.05721	0.413	0.126	0.269
	1.05567	0.949	0.257	0.603
	1.05747	0.669	0.204	0.436
<b>B</b>	1.05715	0.666	0.232	0.449
	1.05721	0.627	0.218	0.422
	1.05567	0.488	0.170	0.329
	1.05747	0.846	0.294	0.570
<b>C</b>	1.05715	0.948	0.329	0.639
	1.05721	0.578	0.201	0.389
	1.05567	0.928	0.323	0.625
	1.05747	0.296	0.103	0.199
<b>D</b>	1.05559	0.891	0.310	0.600
	1.05747	0.574	0.156	0.365
<b>E</b>	1.05559	0.670	0.233	0.451
	1.05747	0.700	0.190	0.445
<b>F</b>	1.05559	1.087	0.295	0.691
	1.05747	0.825	0.287	0.556
<b>G</b>	1.05559	0.944	0.288	0.616
	1.05747	0.766	0.233	0.500

**Mobile phases:** **A** chloroform + methanol + ammonia- 9:1:0.4 (v/v/v); **B**- chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v); **C**- acetone + toluene + ammonia- 10:9:1 (v/v/v); **D**- methanol + water 10:0 (v/v); **E**- methanol + water 9:1 (v/v); **F**- acetone + water 10:0 (v/v); **G**- acetone + water - 9:1 (v/v).

**Chromatographic plates:** 1.05715 – silica gel 60 F<sub>254</sub> on glass plates; 1.05721 silica gel 60 on glass plates; 1.05567 – mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminium plates; 1.05747 – silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates; 1.05559 – silica gel RP-18F<sub>254</sub> on aluminium plates

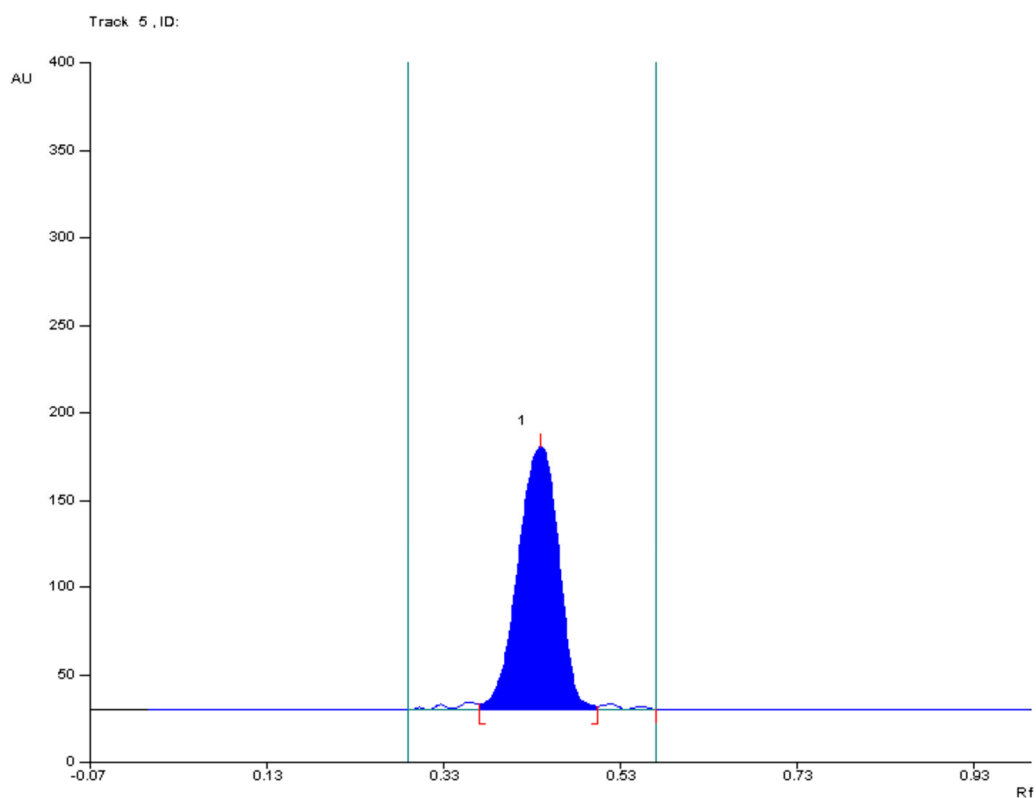


**Table S41.** Quantification limit values for sertraline obtained in different chromatographic systems.

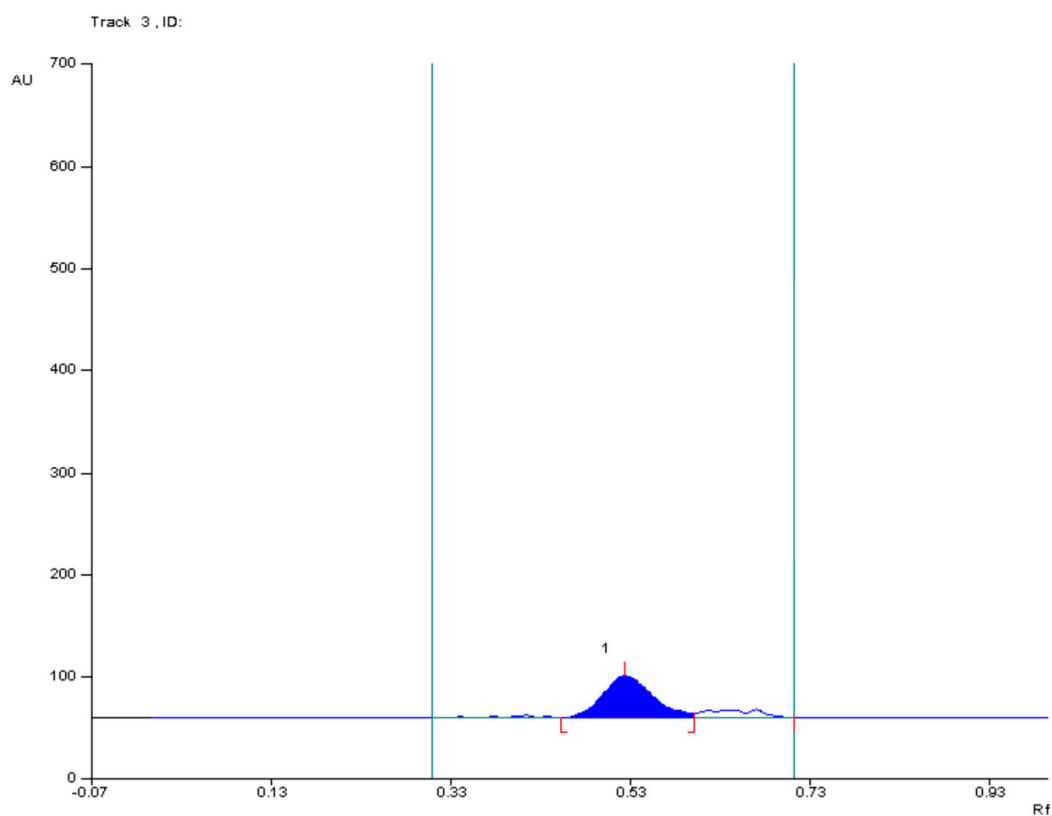
Symbol of mobile phase	Number of plates	LOQ [ $\mu\text{g}/\text{spot}$ ] calculated with		Average LOQ value [ $\mu\text{g}/\text{spot}$ ]
		( $\sigma_a$ )	( $\sigma_{xy}$ )	
<b>B</b>	1.05715	0.291	0.229	0.260
	1.05721	0.410	0.323	0.366
	1.05567	0.615	0.484	0.550
	1.05747	-	-	-
<b>C</b>	1.05715	0.452	0.356	0.404
	1.05721	0.268	0.211	0.239
	1.05567	0.945	0.744	0.845
	1.05747	0.401	0.316	0.358
<b>D</b>	1.05559	0.169	0.191	0.180
	1.05747	0.232	0.263	0.248
<b>E</b>	1.05559	0.262	0.297	0.280
	1.05747	0.105	0.119	0.112
<b>F</b>	1.05559	0.400	0.453	0.426
	1.05747	0.269	0.305	0.287
<b>G</b>	1.05559	0.392	0.444	0.418
	1.05747	0.401	0.316	0.359

**Mobile phases:** **B**- chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v); **C**- acetone + toluene + ammonia- 10:9:1 (v/v/v); **D**- methanol + water 10:0 (v/v); **E**- methanol + water 9:1 (v/v); **F**- acetone + water 10:0 (v/v); **G**- acetone + water - 9:1 (v/v).

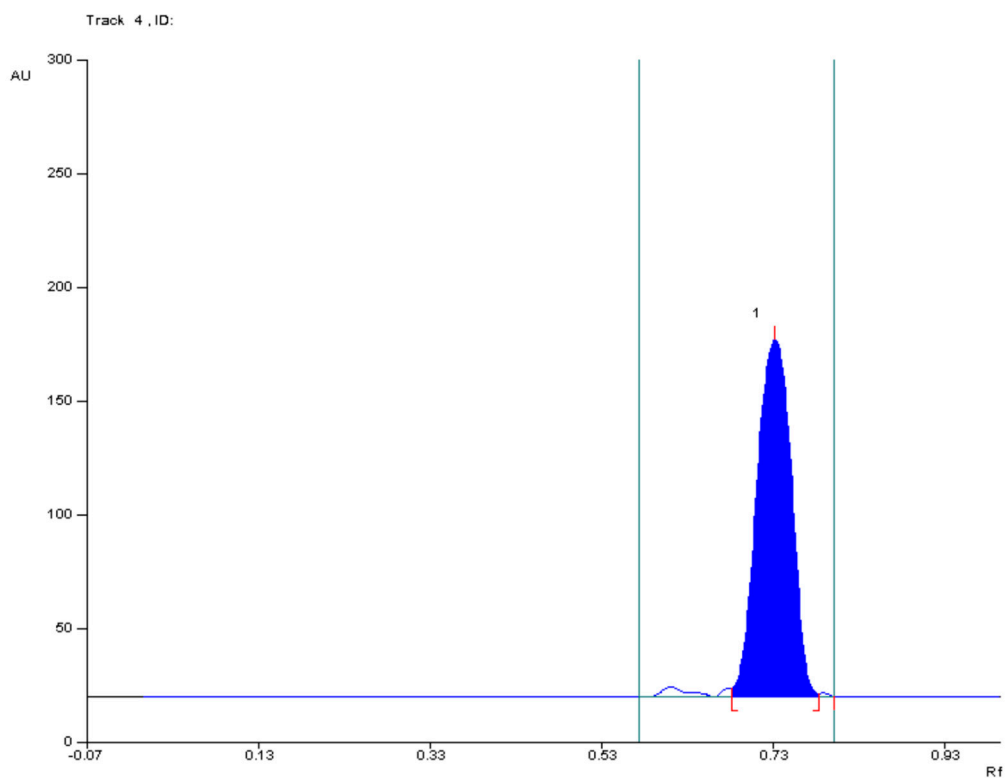
**Chromatographic plates:** 1.05715 – silica gel 60 F<sub>254</sub> on glass plates; 1.05721 silica gel 60 on glass plates; 1.05567 – mixture of silica gel 60 and kieselghur F<sub>254</sub> on aluminium plates; 1.05747 – silanized silica gel 60F<sub>254</sub> (RP-2) on glass plates; 1.05559 – silica gel RP-18F<sub>254</sub> on aluminium plates



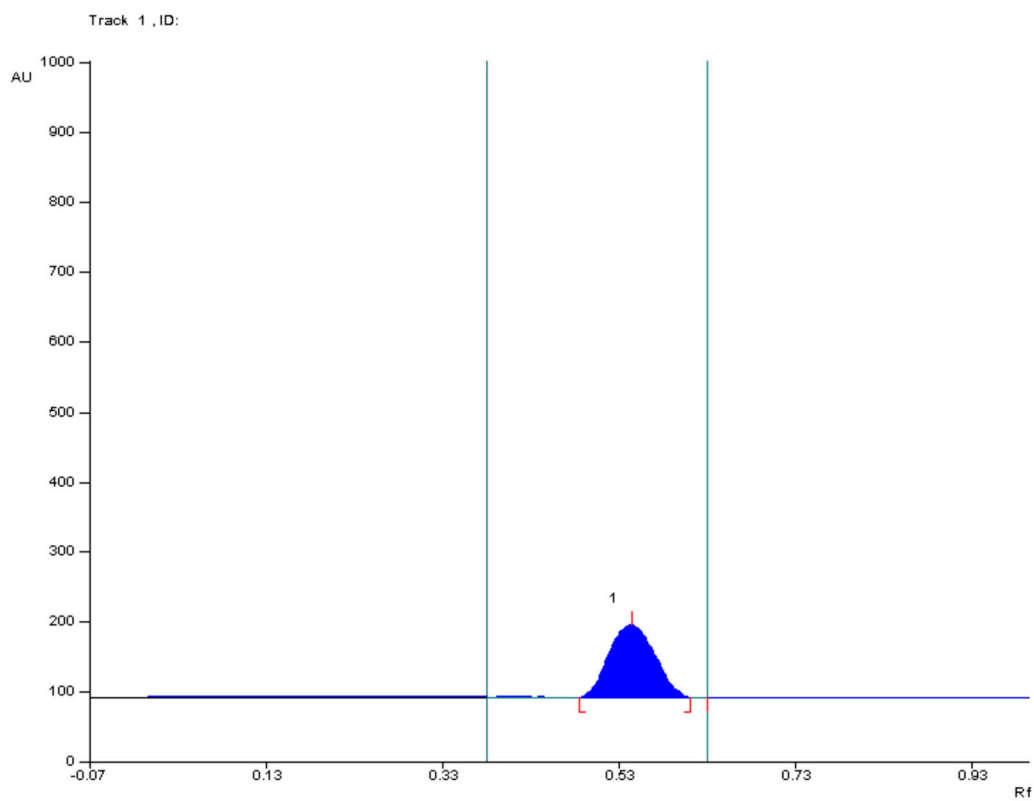
**Figure S3.** Densitogram of sertraline analyzed on silica gel 60 F<sub>254</sub> (1.05715) using chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v) mobile phase.



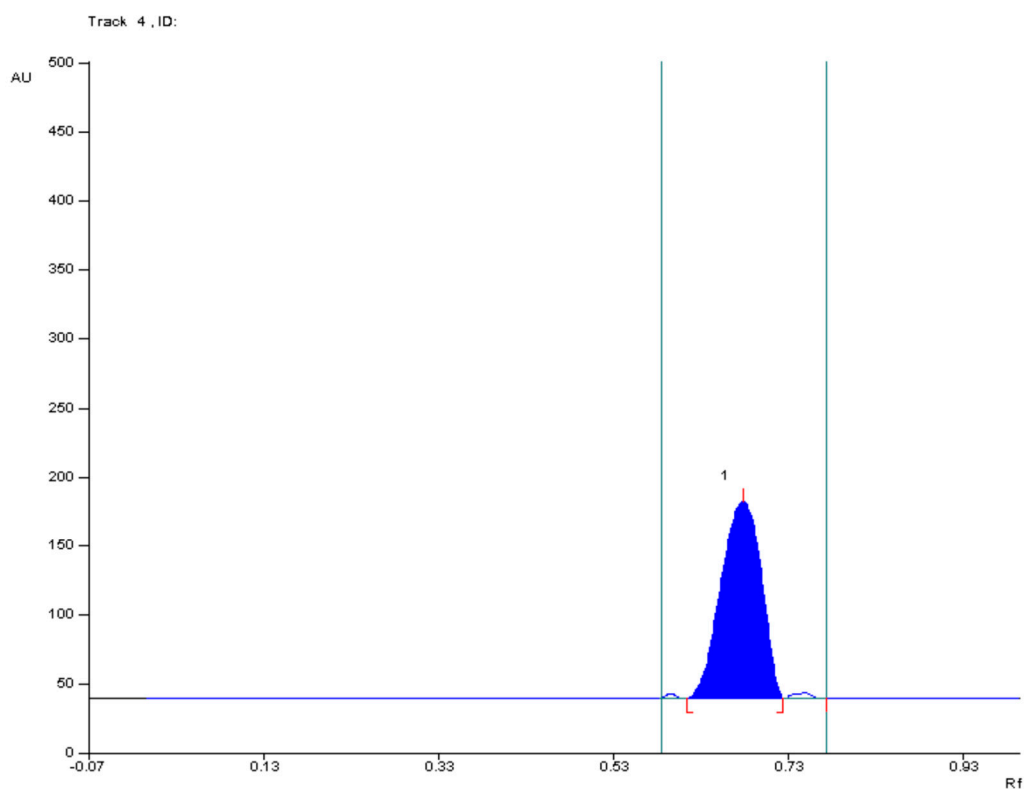
**Figure S4.** Densitogram of fluoxetine analyzed on silica gel 60 F<sub>254</sub> (1.05715) using chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v) mobile phase.



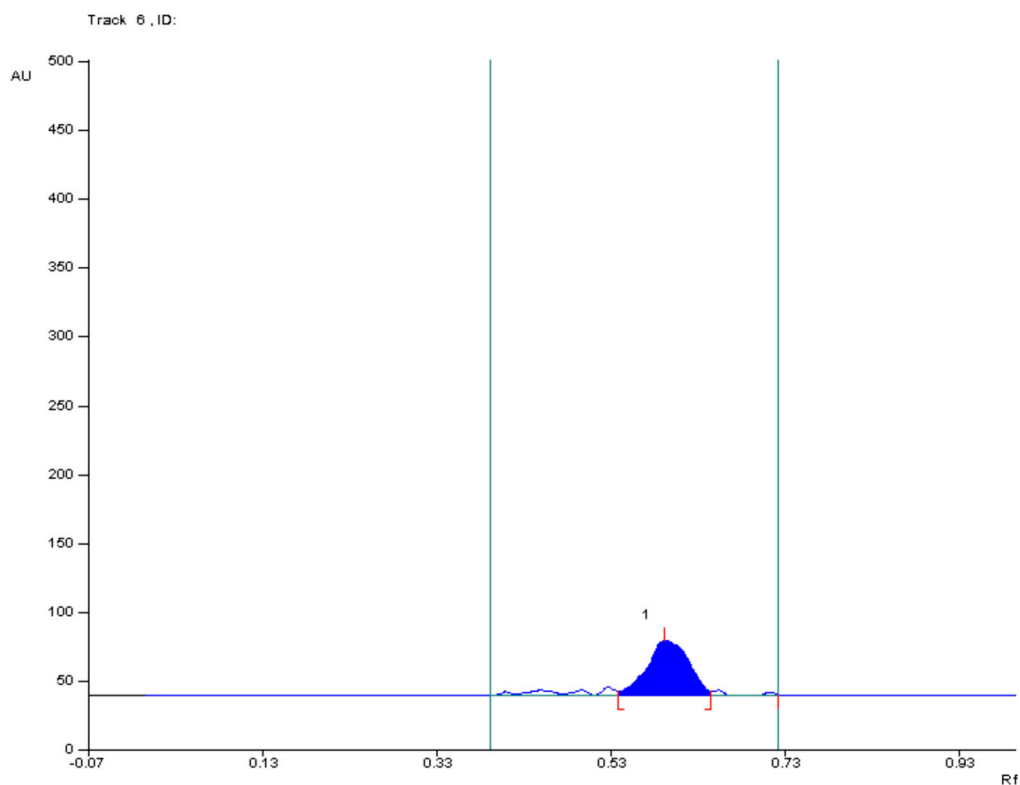
**Figure S5.** Densitogram of sertraline analyzed on silica gel 60 (1.05721) using chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v) mobile phase.



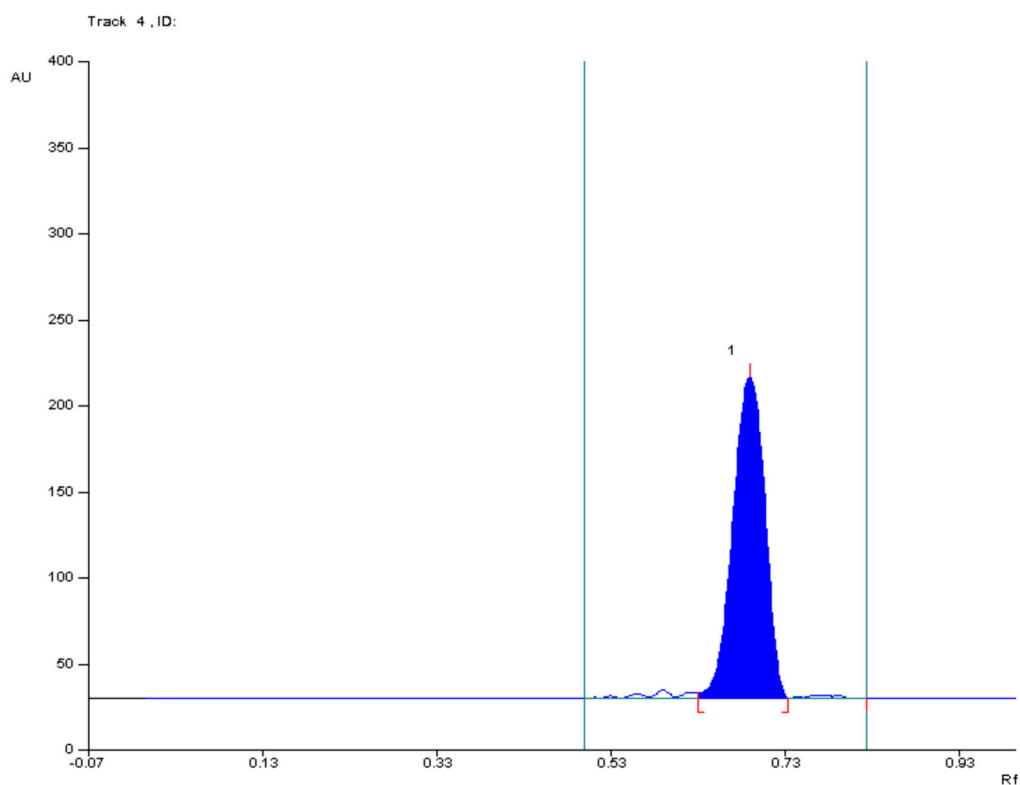
**Figure S6.** Densitogram of fluoxetine analyzed on silica gel 60 (1.05721) using chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v) mobile phase.



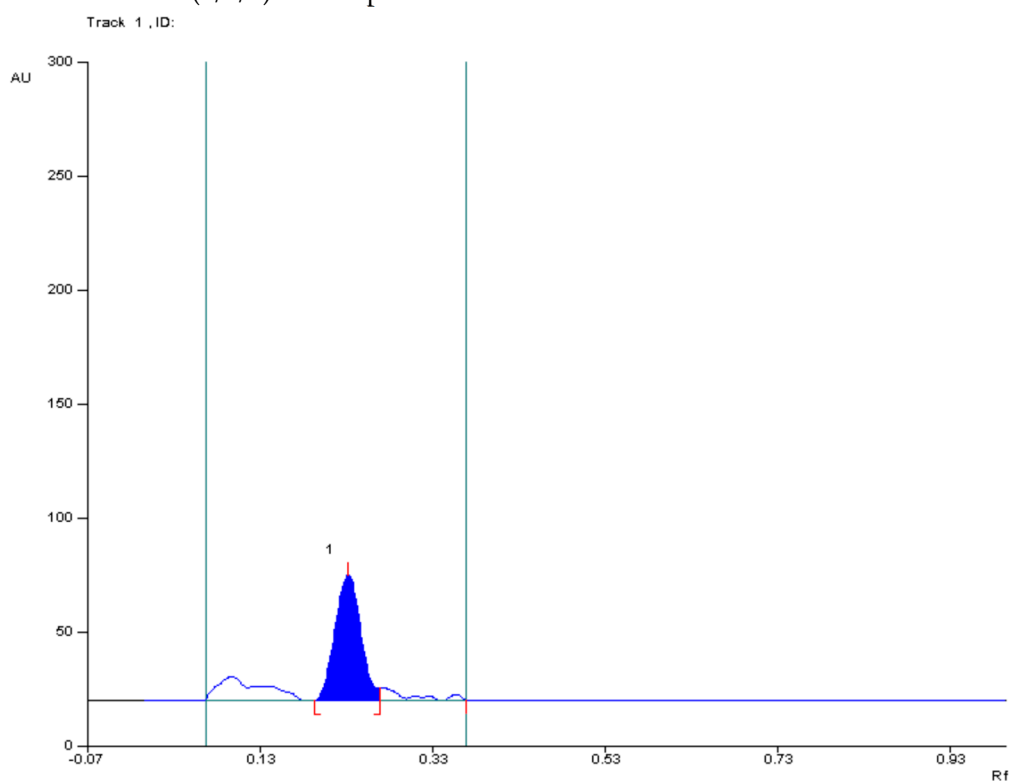
**Figure S7.** Densitogram of sertraline analyzed on mixture of silica gel 60 and kieselghur F<sub>254</sub> (1.05567) using chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v) mobile phase.



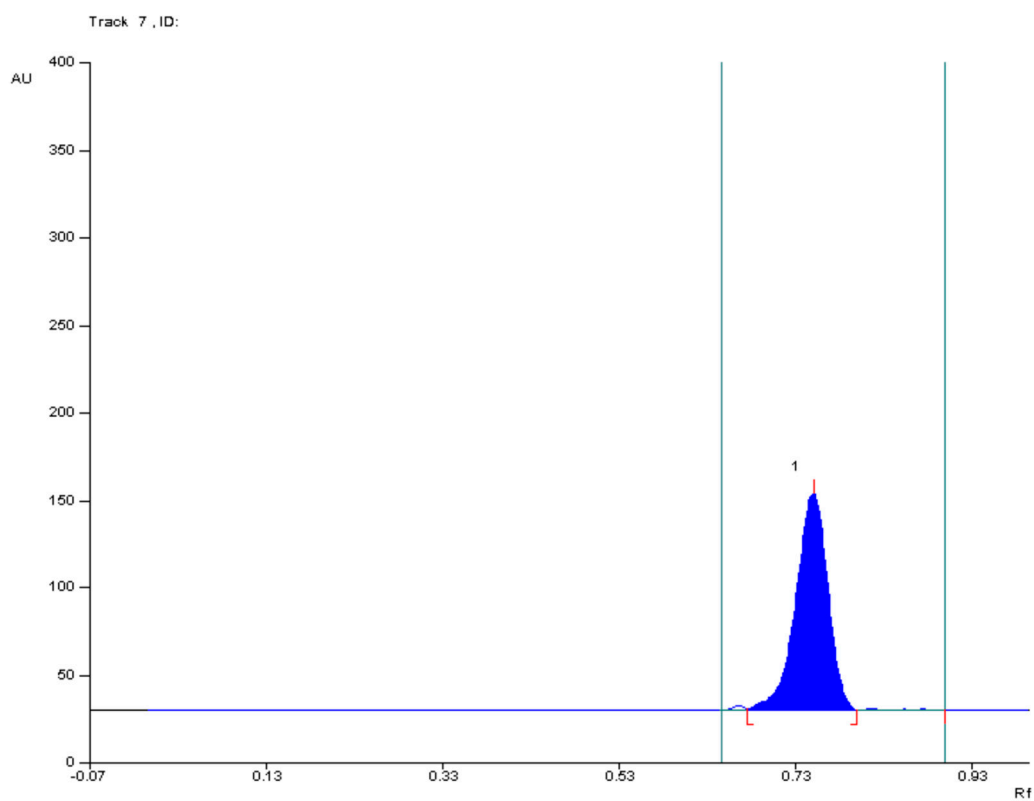
**Figure S8.** Densitogram of fluoxetine analyzed on mixture of silica gel 60 and kieselghur F<sub>254</sub> (1.05567) using chloroform + methanol + glacial acetic acid- 5:4:1 (v/v/v) mobile phase.



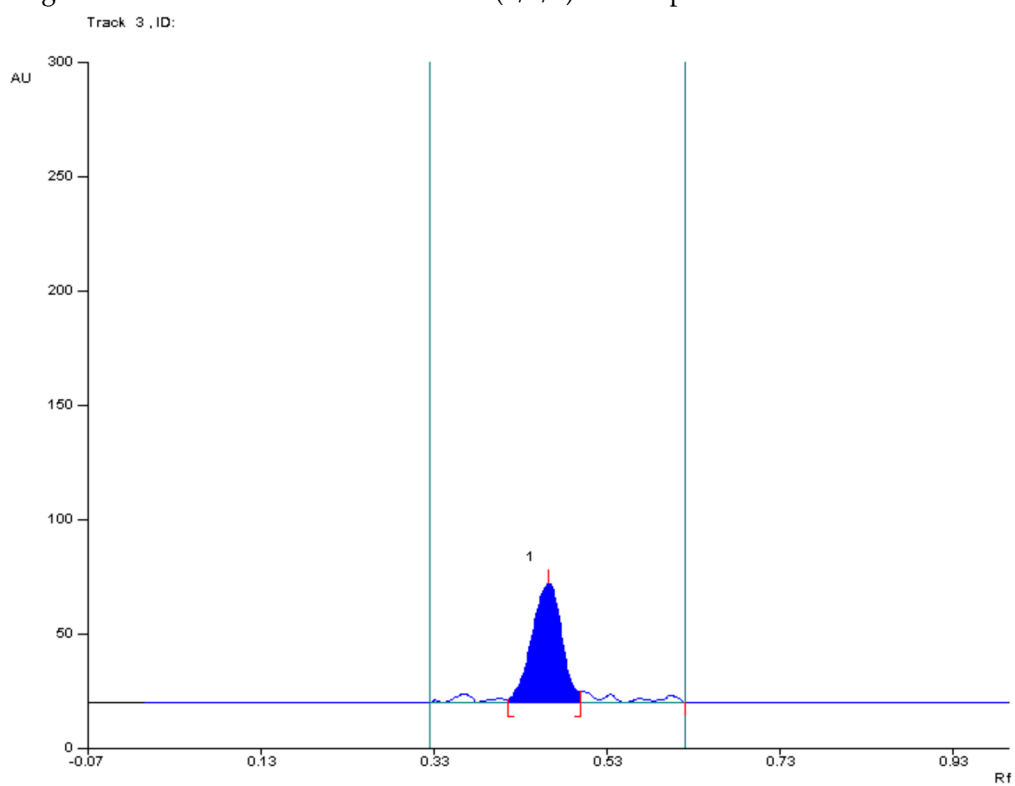
**Figure S9.** Densitogram of sertraline analyzed on silica gel 60 F<sub>254</sub> (1.05715) using acetone + toluene + ammonia- 10:9:1 (v/v/v) mobile phase.



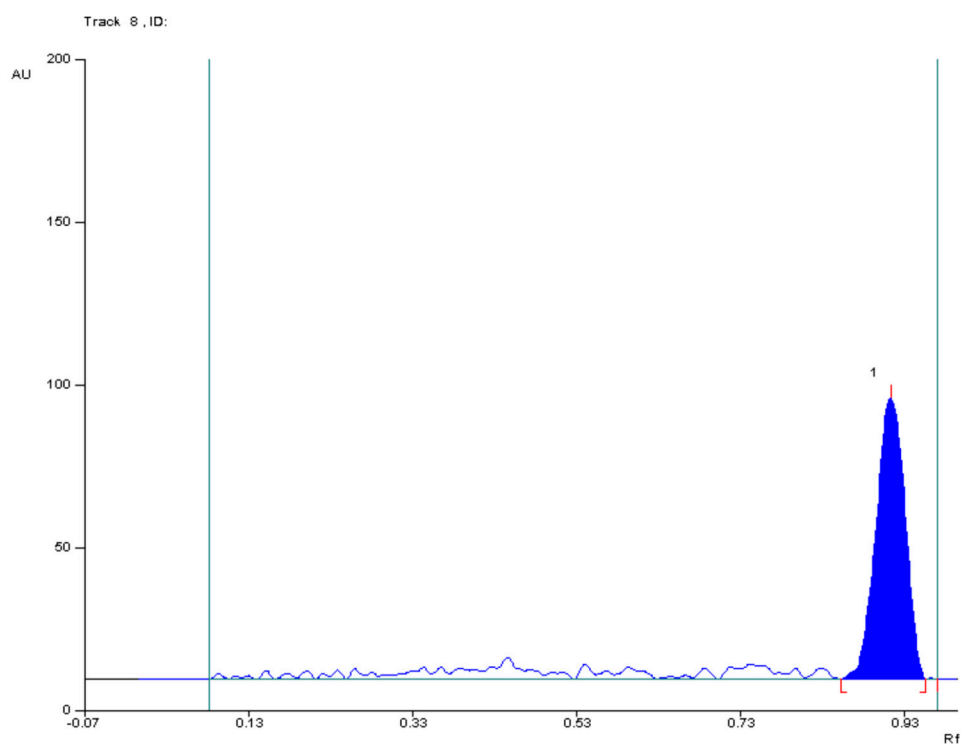
**Figure S10.** Densitogram of fluoxetine analyzed on silica gel 60 F<sub>254</sub> (1.05715) using acetone + toluene + ammonia- 10:9:1 (v/v/v) mobile phase.



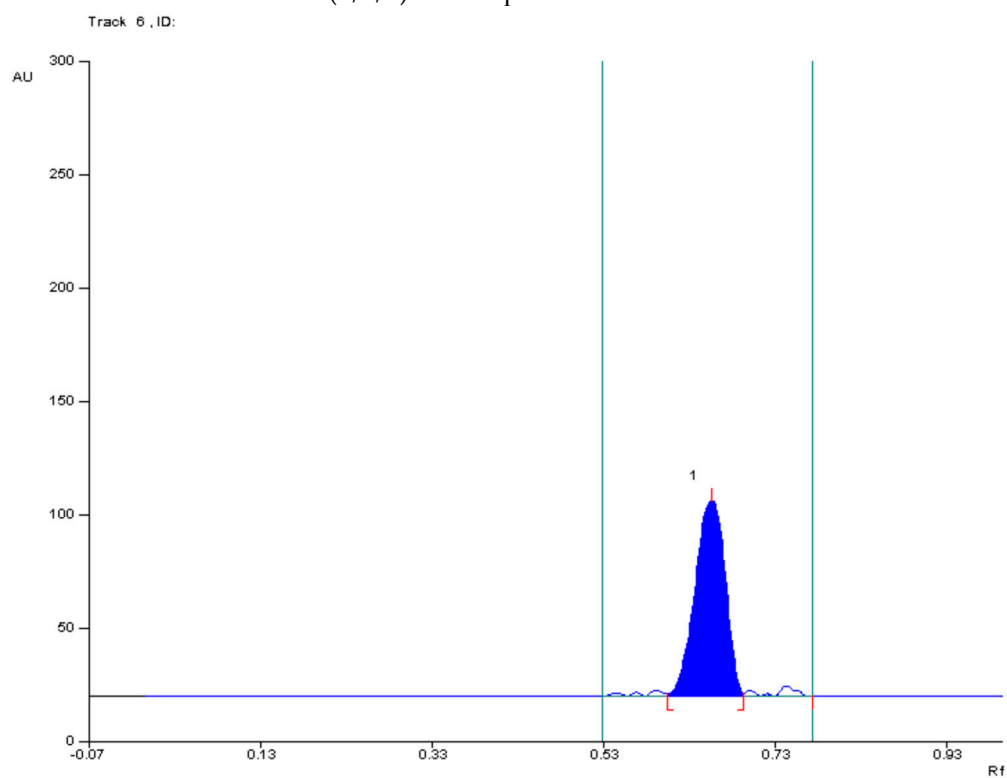
**Figure S11.** Densitogram of sertraline analyzed on mixture of silica gel 60 and kieselghur  $F_{254}$  (1.05567) using acetone + toluene + ammonia- 10:9:1 (v/v/v) mobile phase.



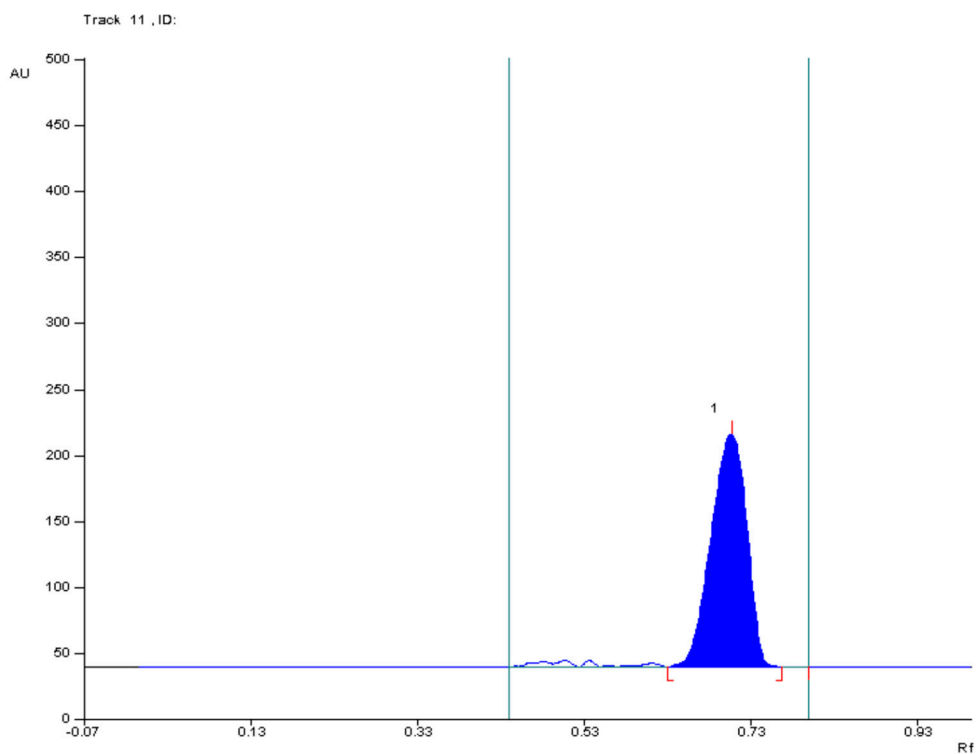
**Figure S12.** Densitogram of sertraline analyzed on mixture of silica gel 60 and kieselghur  $F_{254}$  (1.05567) using acetone + toluene + ammonia- 10:9:1 (v/v/v) mobile phase.



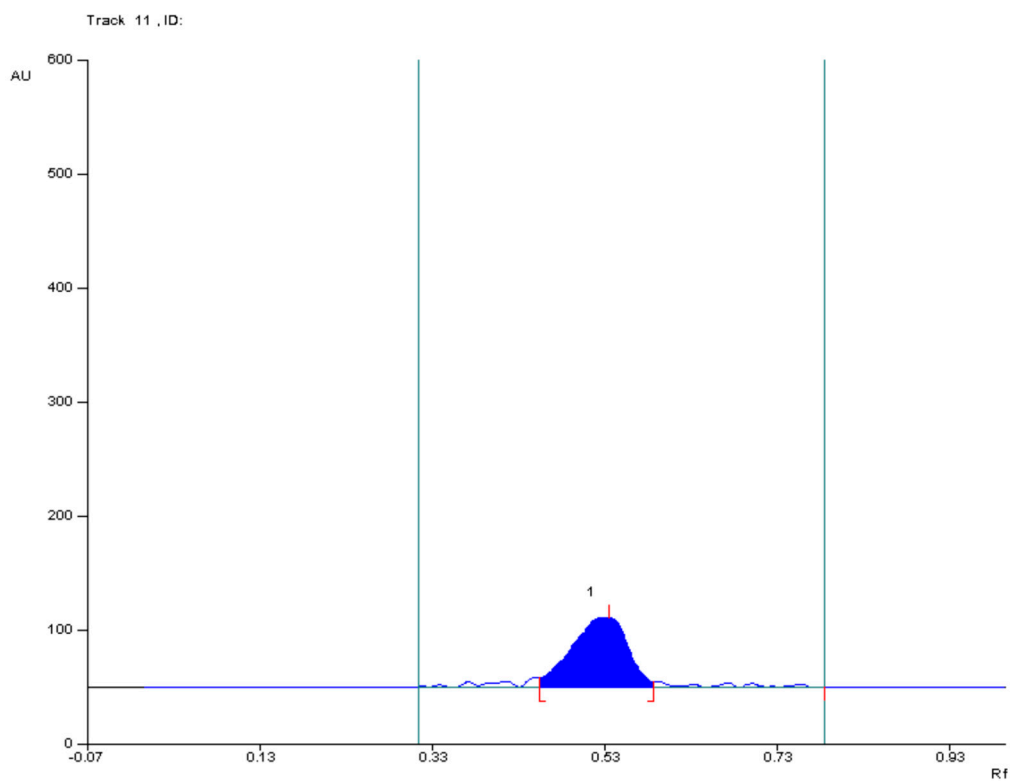
**Figure S13.** Densitogram of sertraline analyzed on silanized silica gel 60 (RP-2) (1.05747) using acetone + toluene + ammonia- 10:9:1 (v/v/v) mobile phase.



**Figure S14.** Densitogram of fluoxetine analyzed on silanized silica gel 60 (RP-2) (1.05747) using acetone + toluene + ammonia- 10:9:1 (v/v/v) mobile phase.

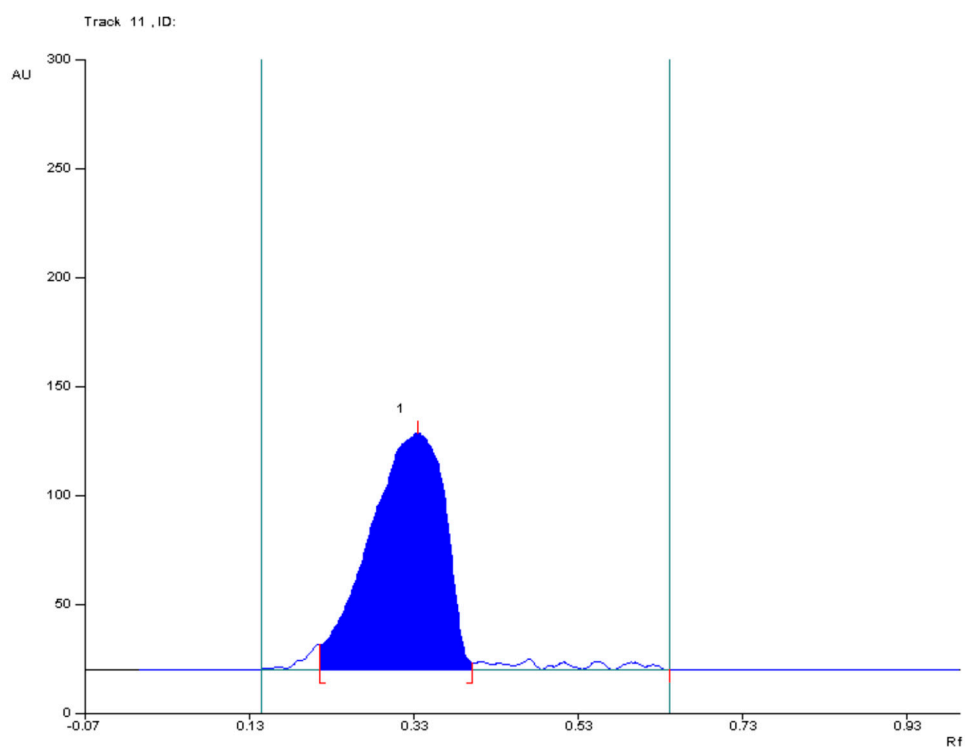


**Figure S15.** Densitogram of sertraline analyzed on silanized silica gel 60 (RP-2) (1.05747) using methanol+water 10:0 (v/v) mobile phase.

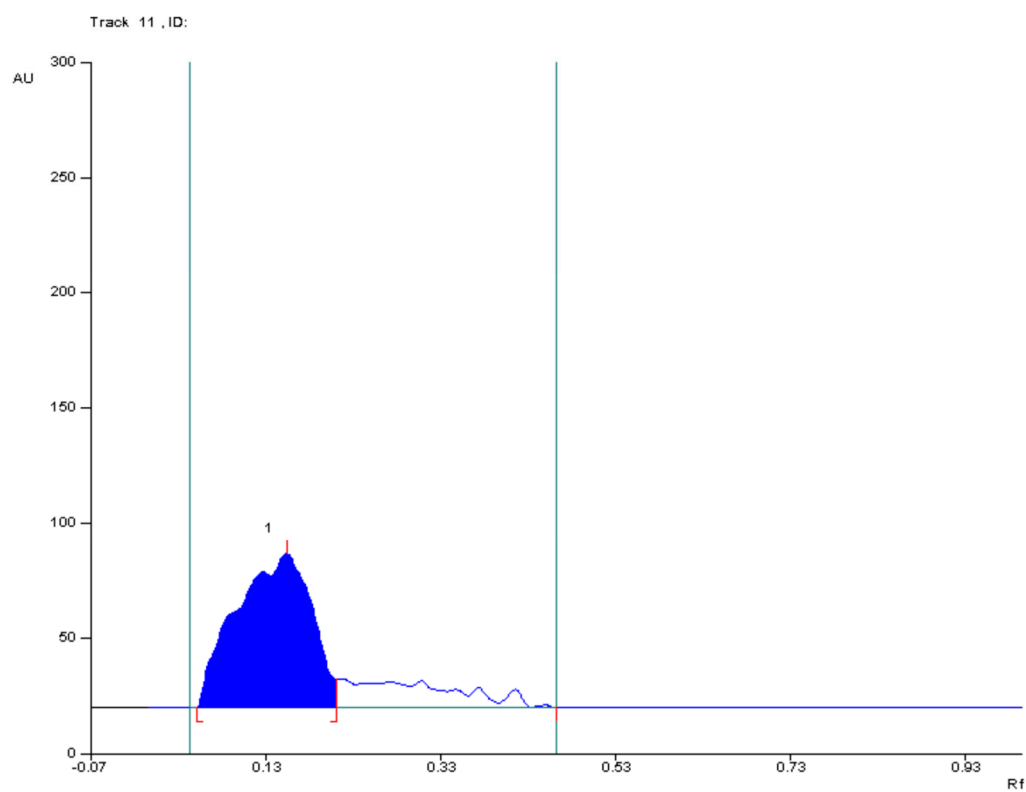


**Figure S16.** Densitogram of fluoxetine analyzed on silanized silica gel 60 (RP-2) (1.05747) using methanol+water 10:0 (v/v) mobile phase.

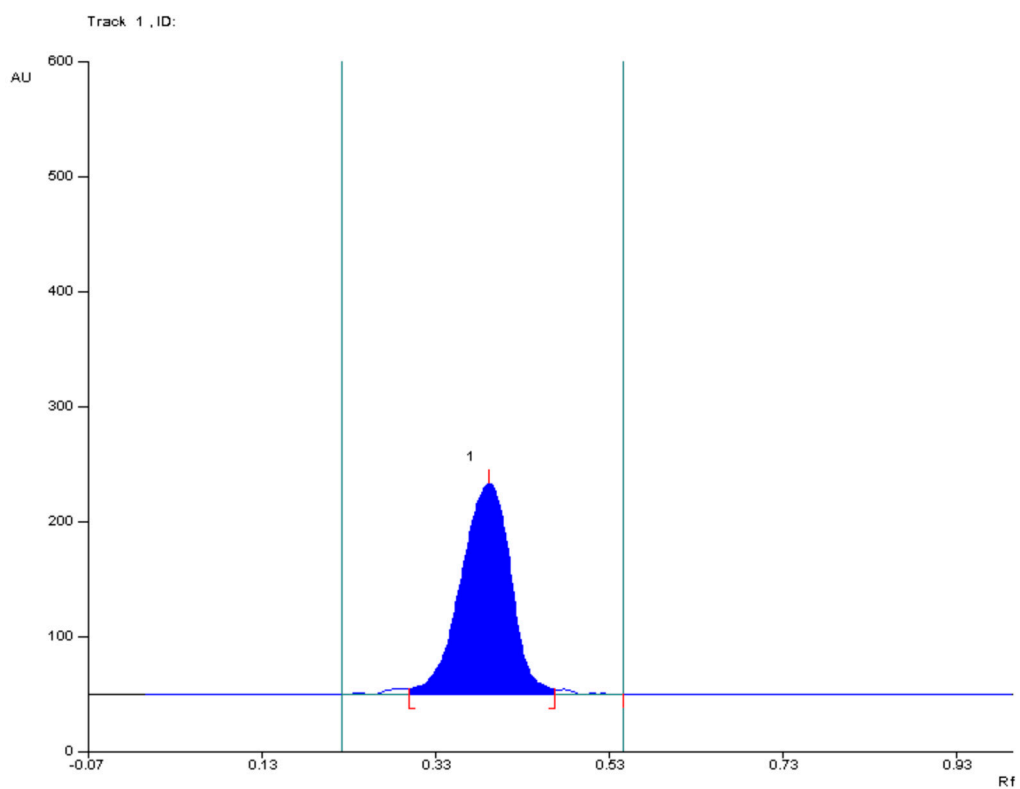




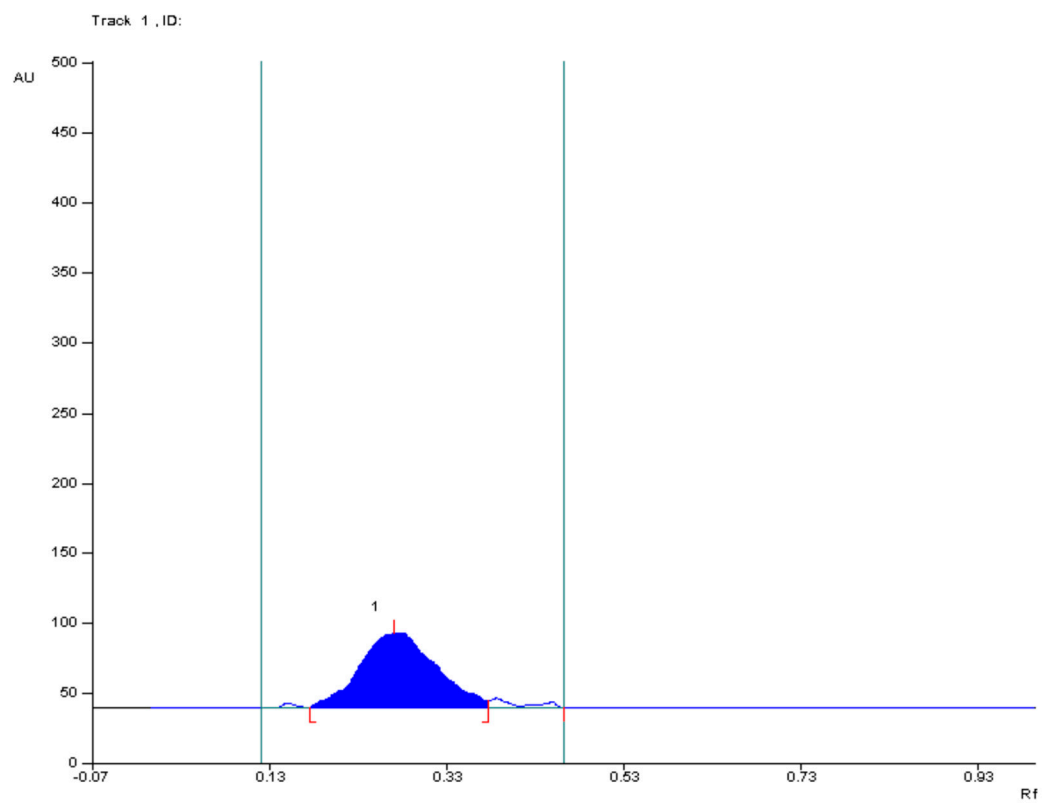
**Figure S17.** Densitogram of sertraline analyzed on silanized silica gel 60 (RP-2) (1.05747) using acetone+water 10:0 (v/v) mobile phase.



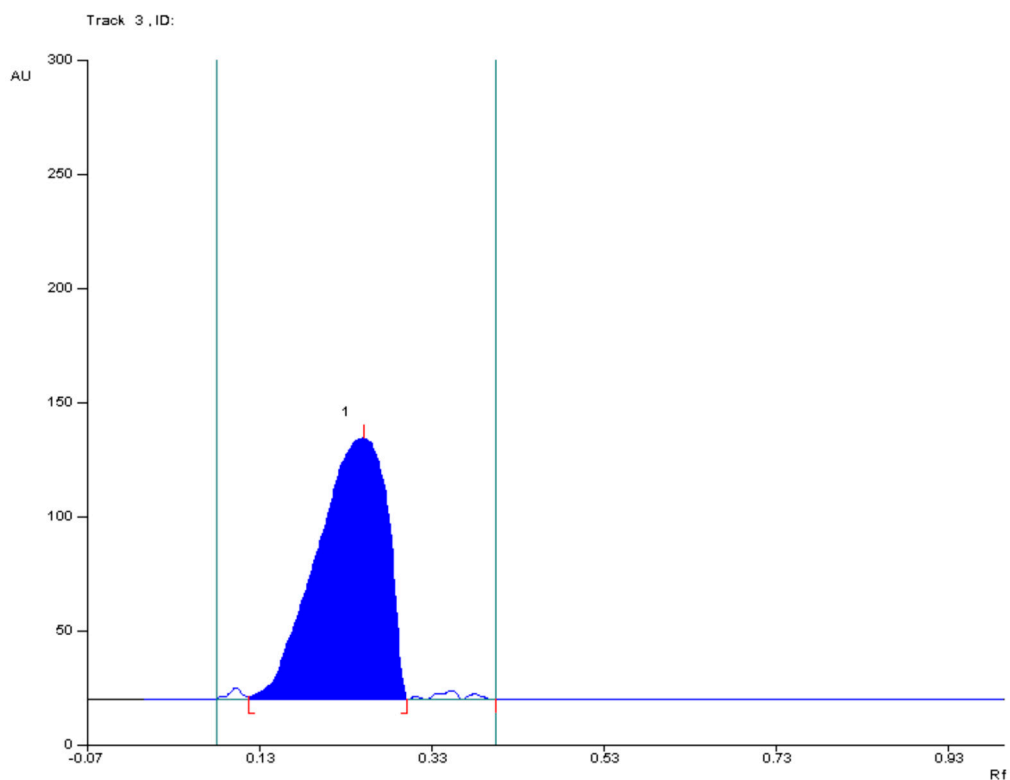
**Figure S18.** Densitogram of fluoxetine analyzed on silanized silica gel 60 (RP-2) (1.05747) using acetone+water 10:0 (v/v) mobile phase.



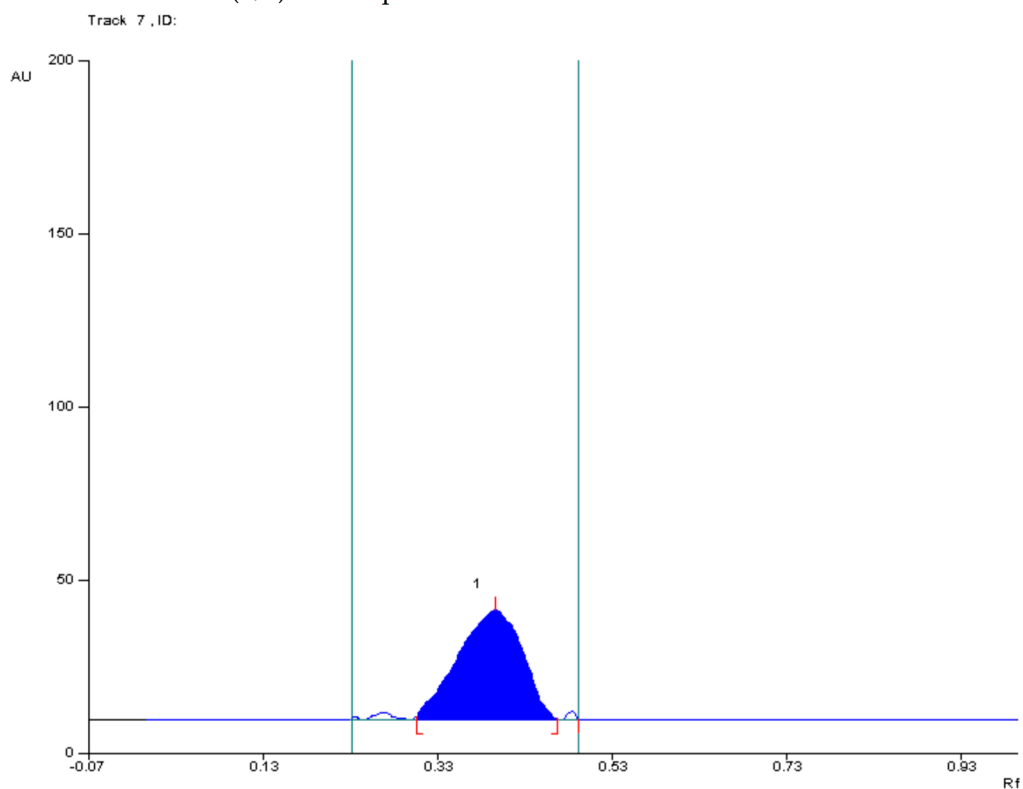
**Figure S19.** Densitogram of sertraline analyzed on silanized silica gel 60 (RP-2) (1.05747) using methanol+water 9:1 (v/v) mobile phase.



**Figure S20.** Densitogram of fluoxetine analyzed on silanized silica gel 60 (RP-2) (1.05747) using methanol+water 9:1 (v/v) mobile phase.



**Figure S21.** Densitogram of sertraline analyzed on silica gel RP-18F<sub>254</sub> (1.05559) using methanol+water 9:1 (v/v) mobile phase.



**Figure S22.** Densitogram of fluoxetine analyzed on silica gel RP-18F<sub>254</sub> (1.05559) using methanol+water 9:1 (v/v) mobile phase.