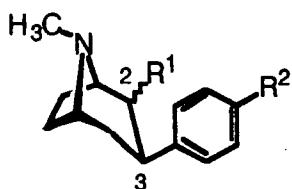
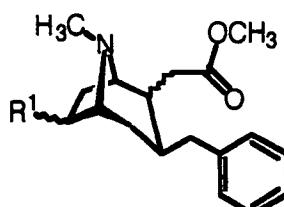


Table 2. Structures and Activities of 2-Substituted 3 β -Aryltropanes used as a Training/Test Set.^a

Cmpd.	$2\alpha/\beta$	R ¹	R ²	Observed Activity pK _i ^b	Predicted Activity pK _i ^c
1	Cocaine			0.7282	0.6319
9a	β	CH ₂ OCH(C ₆ H ₅) ₂	CH ₃	1.4685	1.5063
9b	β	CH ₂ OCH(C ₆ H ₅) ₂	F	1.3098	1.5364
9c	β	CH ₂ OCH(C ₆ H ₅) ₂	Cl	1.2839	1.6051
9d	β	CH ₂ OCH(4'-Cl-C ₆ H ₄)C ₆ H ₅	CH ₃	1.0969	1.4936
9e	β	CH ₂ OCH(4'-Cl-C ₆ H ₄)C ₆ H ₅	F	0.9508	1.5804
9f	β	CH ₂ OCH(4'-Cl-C ₆ H ₄)C ₆ H ₅	Cl	1.1192	1.5993
9g	β	CH ₂ OCH(4'-F-C ₆ H ₄) ₂	CH ₃	1.2076	1.5624
9h	β	CH ₂ OCH(4'-F-C ₆ H ₄) ₂	F	1.2007	1.6819
9i	β	CH ₂ OCH(4'-F-C ₆ H ₄)	Cl	1.0044	1.6701
10a	α	CH ₂ OCH(C ₆ H ₅) ₂	CH ₃	0.3420	0.1625
10c	α	CH ₂ OCH(C ₆ H ₅) ₂	Cl	0.3201	0.2542
10d	α	CH ₂ OCH(4'-Cl-C ₆ H ₄)C ₆ H ₅	CH ₃	0.0283	0.1939
10f	α	CH ₂ OCH(4'-Cl-C ₆ H ₄)C ₆ H ₅	Cl	0.2573	0.3289
10g	α	CH ₂ OCH(4'-F-C ₆ H ₄) ₂	CH ₃	0.1612	0.6668
10i	α	CH ₂ OCH(4'-F-C ₆ H ₄)	Cl	0.6021	0.2978
12a	β	(CH ₂) ₃ OCH(C ₆ H ₅) ₂	H	0.8570	1.9702
12b	β	(CH ₂) ₃ OCH(4-Cl-C ₆ H ₄)C ₆ H ₅	H	0.5834	2.0479
12c	β	(CH ₂) ₃ OCH(4'-F-C ₆ H ₄) ₂	H	1.2218	2.0675
13	β	COOCH ₃	H	1.0605	0.9560
14	β	CH=CHCOOCH ₃	H	1.6576	1.4603
15	β	(CH ₂) ₂ COOCH ₃	H	1.6383	1.6088
16	β	CH=CHCH ₂ OH	H	1.5850	1.6460
17	β	(CH ₂) ₃ OH	H	1.9586	1.5597
18	β	(CH ₂) ₂ CH=CHCOOCH ₃	H	1.6990	1.6303
19	β	(CH ₂) ₄ COOCH ₃	H	1.5229	1.6654
20	β	(CH ₂) ₂ COC ₆ H ₅	H	1.5528	1.4149
21	β	(CH ₂) ₃ C ₆ H ₅	H	1.7959	1.7929
22	β	CO-(4'-CH ₃ -C ₆ H ₄)	CH ₃	1.7595	1.7203
23	β	CHOH-(4'-CH ₃ -C ₆ H ₄)	CH ₃	1.8508	1.9954
24	β	(CH ₂) ₃ OH	CH ₃	0.8665	1.1398
25	β	CH=CHCOOCH ₃	CH ₃	0.9101	0.9877
26	α	CH ₂ OH	CH ₃	-0.5428	-0.5679
27	α	CHOH-4'-CH ₃ -C ₆ H ₄	CH ₃	1.6038	1.6702
28	β	CH ₂ -(4'-CH ₃ -C ₆ H ₄)	CH ₃	1.9431	1.7803
29	β	CHOH-(4'-CH ₃ -C ₆ H ₄)	CH ₃	1.0716	1.3326

^aCompounds 1 and 13-29 were used as the training set and compounds 9, 10 and 12 belong to the test set. ^bExpressed as logarithm of 1/K_i (μ M) value. ^c Predicted from the CoMFA Model A.

Table 3. Structures and Activities of 6-Substituted 3-Benzyltropanes used as a Training Set.

Cmpd	2 α / β	6 α / β	R ¹	Observed Activity pK _i ^a	Predicted Activity pK _i ^b
30	β		H	1.4815	1.2669
31	β		H	1.0410	1.2669
32	β	α	CH ₃	0.6757	0.8852
33	β	α	CH ₂ CH ₃	0.5129	0.1402
34	β	α	(CH ₂) ₂ CH ₃	-0.6212	-0.4554
35	β	α	(CH ₂) ₃ CH ₃	-0.9335	-0.8915
36	β	α	CH ₂ C ₆ H ₅	-0.4886	-0.8032
37	α		H	1.2218	1.2814
38	α		H	0.9666	1.3611
39	α	α	CH ₃	0.2749	0.2489
40	α	α	CH ₂ CH ₃	-0.0607	-0.2809
41	α	α	(CH ₂) ₂ CH ₃	-0.8597	-0.8343
42	α	α	(CH ₂) ₃ CH ₃	-1.2945	-1.3480
43	α	α	CH ₂ C ₆ H ₅	-0.8802	-0.9704
44	β	β	CH ₃	1.2441	0.9822
45	β	β	CH ₂ CH ₃	-0.4928	-0.3639
46	β	β	(CH ₂) ₂ CH ₃	-0.7672	-0.7684
47	β	β	CH ₂ C ₆ H ₅	-0.1931	-0.0659
48	α	β	CH ₃	0.5317	0.5039
49	α	β	CH ₂ CH ₃	-0.7931	-0.9332
50	α	β	(CH ₂) ₂ CH ₃	-1.7582	-1.4046
51	α	β	CH ₂ C ₆ H ₅	-0.4886	-0.4957
52	C ² =C ³	α	CH ₂ C ₆ H ₅	-0.6839	-0.4493

^a Expressed as logarithm of 1/K_i (μ M) value. ^b Predicted from the CoMFA Model A.