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# JM9603882

#### Supplementary information

Lists of compounds used to validate the maximum size of MAO-B active site.

#### 4-phenyl-R-substituted MPTP derivatives.

All of them have the same length as MPTP (1) (10.07 Å) and are issued from references  $^{12}$  and  $^{14}$ 

R	kcat/Km	R	kcat/Km
2-Me	1275	2,6-diMə	209
2-Et	295	3-Ме	650
2-n-Pr	86	3-F	900
2-OMe	233	3-CI	1132
2-CI	1353	3-Br	2036
2-i-Pr	53	3-OMe	944
2-CF3	520	3-CF <sub>3</sub>	514

## 4-(R-substituted-phenoxy)-N-methyl-1,2,3,6-tetrahydropyridine and 4-(aryloxy)-N-methyl-1,2,3,6-tetrahydropyridine derivatives.

All of them have the same length as 4-phenoxy derivative 33 (6.60 Å) and are issued from reference  $^{28}$  and  $^{6}$ 

R	kcat/Km	R	kcat/Km
2'-Me	1782	4'-Me	2019
2'-NO <sub>2</sub>	786	4'-NO <sub>2</sub>	191
2'-OMe	746	4'-OMe	746
2'-Cl	822	4'-Cl	1401
2'-Ph	132	4'-Ph	363
3'-Me	1747	4'-n-Bu	1090
3'-NO <sub>2</sub>	1410	4'-t-Bu	395
3'-OMe	721	4-a-Naph	565
3'-Cl	729	4-b-Naph	1214
3'-Ph	637		

## 4-(R-substituted-benzyl)-N-methyl-1,2,3,6-tetrahydropyridine and 4-(arylmethyl)-N-methyl-1,2,3,6-tetrahydropyridine derivatives.

All of them have the same length as 4-benzyl derivative 25 (6.72 Å) and are issued from reference 32

R	kcat/Km		kcat/Km
2-F	1440	4-F	1140
2-OMe	145	4-1	1190
3-Me	603	-a-Naph	105
3-F	2330	-b-Naph	310
4-Me	615	-9-Phen	inactive

4-(R-substituted-phenylethenyl)-N-methyl-1,2,3,6-tetrahydropyridine and 4-(arylethenyl)-N-methyl-1,2,3,6-tetrahydropyridine derivatives.

All of *cis* isomers have the same length as 4-phenylethenyl derivative **31** (7.96 Å), all of the *trans* isomers have the same length as 4-phenylethenyl derivative **30** (12.16 Å) and are issued from reference <sup>31</sup> and <sup>21</sup>

R ( <i>cis</i> )	kcat/Km	R (trans)	kcat/Km
'-Br	107	2'-OMe	16
2'-OMe	93	2'-Br	617
3'-Br	1056	2'-Me	< 10%
4'-Br	890	3'-Br	6
-a-Naph	49	4'-Br	98
		4'-F	138
		4'-Me	59
		4'-N(Me) <sub>2</sub>	67
		4'-OMe	53
		-a-Naph	21

### N-R<sub>1</sub>-4-R<sub>2</sub>-1,2,3,6-tetrahydropyridine derivatives.

Data are issued from reference 32, 5, 15, 3, 10, 12

R <sub>1</sub>	R <sub>2</sub>	kcat/Km	Length
Me	methyl-thien-2-yl	3270	8.0
Мө	a-naphthylethyl	62	7.8
Ме	b-naphthylethyl	76	7.8
Me	ethyl-thien-2-yl	1059	8.4
Me	thien-3-yl	160	8.5
Мө	methyl-thien-3-yl	785	8.1
Me	ethyl-thien-3-yl	890	7.8
Ме	ethyl	41%	/ 7.8
n-butyl	phenyl	MPTP	13.5
cPr methyl	phenyl	inactive	12.2
2-ethanol	phenyl	inactive	12.0
		inactive	