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## ACS Publications

## Supplementary information

Lists of compounds used to validate the maximum size of MAO-B active site.
4-phenyl-R-substltuted MPTP derivatives.
All of them have the same length as MPTP (1) (10.07 $\AA$ ) and are issued from references 12 and 14

| R | $\mathrm{kcat} / \mathrm{Km}$ |
| :--- | :--- |
| $2-\mathrm{Me}$ | 1275 |
| $2-\mathrm{Et}$ | 295 |
| $2-\mathrm{n}-\mathrm{Pr}$ | 86 |
| $2-\mathrm{OMe}$ | 233 |
| $2-\mathrm{Cl}$ | 1353 |
| $2-\mathrm{i}-\mathrm{Pr}$ | 53 |
| $2-\mathrm{CF}_{3}$ | 520 |


| R | $\mathrm{kcat} / \mathrm{Km}$ |
| :--- | :--- |
| $2,6-\mathrm{diMe}$ | 209 |
| $3-\mathrm{Me}$ | 650 |
| $3-\mathrm{F}$ | 900 |
| $3-\mathrm{Cl}$ | 1132 |
| $3-\mathrm{Br}$ | 2036 |
| $3-\mathrm{OMe}$ | 944 |
| $3-\mathrm{CF}_{3}$ | 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 ( $6.60 \AA$ ) and are issued from reference ${ }^{28}$ and 6

| R | $\mathrm{kcat} / \mathrm{Km}$ |
| :--- | :--- |
| 2'-Me | 1782 |
| 2'-NO 2 | 786 |
| 2'- MMe | 746 |
| 2' -Cl | 822 |
| 2'- Ph | 132 |
| 3' -Me | 1747 |
| 3' -NO | 1410 |
| 3'- OMer | 721 |
| 3' -Cl | 729 |
| 3'- Ph | 637 |


| R | $\mathrm{kcat} / \mathrm{Km}$ |
| :--- | :--- |
| 4'-Me | 2019 |
| 4'-NO 2 | 191 |
| 4'-OMe | 746 |
| 4'-Cl | 1401 |
| 4'-Ph | 363 |
| 4'- n-Bu | 1090 |
| 4'-t-Bu | 395 |
| 4-a-Naph | 565 |
| 4-b-Naph | 1214 |

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

All of them have the same length as 4-benzyl derivative 25 ( $6.72 \dot{A}$ ) and are issued from reference ${ }^{32}$

| $r$ | R |
| :--- | :--- |
| kcat $/ \mathrm{Km}$ |  |
| 2-F | 1440 |
| 2-OMe | 145 |
| 3-Me | 603 |
| 3-F | 2330 |
| 4-Me | 615 |


| R | $\mathrm{kcat} / \mathrm{Km}$ |
| :--- | :--- |
| 4-F | 1140 |
| 4-I | 1190 |
| -a-Naph | 105 |
| -b-Naph | 310 |
| -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 ( $7.96 \AA$ A), all of the trans isomers have the same length as 4-phenylethenyl derivative 30 (12.16 $\AA$ ) and are issued from reference ${ }^{31}$ and ${ }^{21}$

| R (cls) | kcat/Km | R (trans) | kcat/Km |
| :---: | :---: | :---: | :---: |
| 2'-Br | 107 | 2'-OMe | 16 |
| 2'-OMe | 93 | 2'-Br | 617 |
| $3 '-\mathrm{Br}$ | 1056 | 2'-Me | < $10 \%$ |
| 4'-Br | 890 | $3{ }^{\prime}-\mathrm{Br}$ | 6 |
| -a-Naph | 49 | 4'-Br | 98 |
|  |  | 4'-F | 138 |
|  |  | 4'-Me | 59 |
|  |  | $4^{\prime}-\mathrm{N}(\mathrm{Me})_{2}$ | 67 |
|  |  | 4'-OMe | 53 |
|  |  | -a-Naph | 21 |

## $\mathbf{N}$ - $\mathbf{R}_{\mathbf{1}}$-4- $\mathbf{R}_{\mathbf{2}}$-1,2,3,6-tetrahydropyridine derivatives.

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

| $\mathrm{R}_{1}$ | $\mathrm{R}_{2}$ | $\mathrm{kcat} / \mathrm{Km}$ | Length |
| :--- | :--- | :--- | :--- |
| Me | methyl-thien-2-yl | 3270 | 8.0 |
| Me | a-naphthylethyl | 62 | 7.8 |
| Me | b-naphthylethyl | 76 | 7.8 |
| Me | ethyl-thien-2-yl | 1059 | 8.4 |
| Me | thien-3-yl | 160 | 8.5 |
| Me | methyl-thien-3-yl | 785 | 8.1 |
| Me | ethyl-thien-3-yl | 890 | 7.8 |
| Me | ethyl | $41 \%$ | $/ 7.8$ |
| n-butyl | phenyl | MPTP | 13.5 |
| cPr methyl | phenyl | inactive | 12.2 |
| 2-ethanol | phenyl | inactive | 12.0 |
|  |  | inactive |  |

