

## Supplementary material:

**Table 1:** Principal Descriptors calculated by Lipinski's Rule of Five

| Lead molecules <sup>a</sup> | MW <sup>b</sup> | Number of HBA <sup>c</sup> | Number of HBD <sup>d</sup> | Mol LogP <sup>e</sup> | Mol LogS <sup>f</sup> |
|-----------------------------|-----------------|----------------------------|----------------------------|-----------------------|-----------------------|
| <i>Synthetic compounds</i>  |                 |                            |                            |                       |                       |
| ASN03576800                 | 285.03          | 7                          | 2                          | -0.09                 | -2.68                 |
| ASN07462345                 | 411.16          | 5                          | 1                          | 3.90                  | -5.83                 |
| ASN06396768                 | 336.01          | 5                          | 1                          | 3.22                  | -4.66                 |
| ASN05439185                 | 478.10          | 6                          | 2                          | 3.85                  | -6.54                 |
| ASN01516681                 | 393.15          | 4                          | 2                          | 3.98                  | -5.63                 |
| <i>Natural compounds</i>    |                 |                            |                            |                       |                       |
| 693                         | 194.41          | 9                          | 4                          | -1.87                 | -0.91                 |
| 234                         | 313.35          | 5                          | 3                          | 2.71                  | -4.13                 |
| 86                          | 180.19          | 0                          | 4                          | -0.20                 | -0.04                 |
| 3                           | 212.24          | 2                          | 2                          | 3.03                  | -2.90                 |
| 358                         | 290.27          | 7                          | 5                          | 0.29                  | -2.52                 |

- Ligand molecule IDs of Asinex database
- Molecular weight of the molecule (160 to 500)
- Estimated number of hydrogen bonds that would be accepted by the solute from water molecules in an aqueous solution (not more than 10).
- Estimated number of hydrogen bonds that would be donated by the solute to water molecules in an aqueous solution (not more than 5).
- Log P for octanol/water (-2.0 – 6.5).
- Predicted aqueous solubility, log S. S in mol dm<sup>-3</sup> is the concentration of the solute in a saturated solution that is in equilibrium with the crystalline solid (-6.5 – 0.5).