

Appendix 2. Affinities of natural and synthetic ligands to *P. xylostella* OBP3, OBP9 and OBP19. The first column for each protein reports the percent of residual fluorescence measured at the concentration of 16 μ M of ligand. For compounds reaching or approaching 50% fluorescence within the concentration range used, values of [IC]₅₀ are also reported together with calculated binding constants.

| Ligand | OBP3 | | | OBP9 | | | OBP19 | | |
|-----------------------------|-----------------|--------------------|------|-----------------|--------------------|------|-----------------|--------------------|------|
| | % at 16 μ M | [IC] ₅₀ | Kd | % at 16 μ M | [IC] ₅₀ | Kd | % at 16 μ M | [IC] ₅₀ | Kd |
| Pheromone components | | | | | | | | | |
| (Z11)-Hexadecenal | 78 | | | 62 | | | >100 | | |
| (Z11)-Hexadecenol | 77 | | | 66 | | | 82 | | |
| (Z11)-Hexadecenyl acetate | >100 | | | >100 | | | >100 | | |
| Plant volatiles | | | | | | | | | |
| 1-Octen-3-ol | 73 | | | 70 | | | 80 | | |
| Geraniol | 67 | | | 73 | | | 84 | | |
| Citronellal | 75 | | | 74 | | | 85 | | |
| Linalool | 72 | | | 77 | | | 84 | | |
| (-) Carvone | 75 | | | 76 | | | 87 | | |
| (+) Carvone | 81 | | | 74 | | | 82 | | |
| Menthol | 74 | | | 78 | | | 82 | | |
| (-) Menthone | 80 | | | 70 | | | 78 | | |
| (+) Menthone | 81 | | | 72 | | | 87 | | |
| (-) Borneol | 75 | | | 73 | | | 79 | | |
| (+) Borneol | 78 | | | 71 | | | 82 | | |
| Safranal | 63 | 35 | 28.9 | 77 | | | 65 | 40 | 35.4 |
| b-Ionone | 61 | 30 | 24.8 | 59 | 24 | 20.7 | 77 | | |
| Farnesol | 75 | 40 | 33.1 | 65 | 40 | 34.5 | 99 | | |
| Nerolidol | 61 | | | 67 | | | 82 | | |
| Caryophyllene | >100 | | | >100 | | | >100 | | |
| Methyl jasmonate | 72 | | | 84 | | | 83 | | |
| Retinol | 35 | 4.5 | 3.7 | 49 | 14 | 12.1 | 43 | 5.5 | 4.9 |
| Geranyl acetate | 75 | | | 77 | | | 86 | | |
| Eugenol | 76 | | | 75 | | | 90 | | |
| Carvacrol | 80 | | | 76 | | | 82 | | |
| Coniferyl aldehyde | 41 | 12.5 | 10.3 | 48 | 14 | 12.1 | 39 | 9 | 8 |
| p-Isopropylbenzaldehyde | 71 | | | 86 | | | 78 | | |

Synthetic compounds

| | | | | | | | | | | |
|-----------------------------------|----|----|------|----|-----|------|----|------|------|--|
| 1-Octanol | 70 | | | 86 | | | | 78 | | |
| 1-Dodecanol | 77 | | | 72 | | | | 88 | | |
| 2-Tridecanone | 98 | | | 89 | | | | >100 | | |
| p-Phenylphenol | 86 | | | 95 | | | | >100 | | |
| Ethyl benzoate | 72 | | | 98 | | | | 73 | | |
| Butyl benzoate | 66 | 50 | 41.3 | 76 | | | | 99 | | |
| Hexyl benzoate | 52 | 17 | 14.0 | 56 | 22 | 19.0 | 59 | 25 | 22.1 | |
| Octyl benzoate | 46 | 12 | 9.9 | 46 | 10 | 8.6 | 35 | 3.5 | 3.1 | |
| 3,7-Dimethyloctyl benzoate | 48 | 14 | 11.6 | 45 | 11 | 9.5 | 53 | 20 | 17.7 | |
| Benzyl benzoate | 77 | | 82.6 | 65 | 25 | 21.6 | 63 | 22 | 19.5 | |
| <i>p-tert</i> -Butylbenzophenone | 27 | 6 | 5.0 | 28 | 6.5 | 5.6 | 11 | 1.8 | 1.6 | |
| Butyl <i>p-tert</i> butylbenzoate | 56 | 20 | 16.5 | 53 | 20 | 17.2 | 57 | 20 | 17.7 | |