Table S1.1: Calculation of accessible and buried surface areas for the ClusPro YLOV monomer and ZDOCK predicted dimer complexes using the VADAR-tool.

Cluster (LOV-LOV)	ASA† Monomer (Å²)	ASA†† Dimer (Å²)	BSA‡ Dimer (Å²)	ASA-HSC§ Monomer (%)	ASA-HSC§§ Dimer (%)	BSA-HSC↑ Dimer (%)
1	6025.5	10539.3	1511.7	29.38	25.00	33.76
2		10738.4	1312.6		27.39	31.37
3		10591.5	1459.5		27.05	31.71
4		10792.4	1258.6		29.96	28.80
5		10910.2	1140.8		30.18	28.85
6		10515.3	1535.7		27.68	31.08
7		10522.2	1528.8		31.54	27.22
8		10751.9	1299.1		30.96	27.80
9		10687.3	1363.7		32.23	26.53
10		10408.9	1642.1		26.87	31.89

Table S1.2: Calculation of accessible and buried surface areas for the ClusPro YLOV monomer and DOT predicted dimer complexes using the VADAR-tool.

Cluster (LOV-LOV)	ASA† Monomer (Å²)	ASA†† Dimer (Å²)	BSA‡ Dimer (Å²)	ASA-HSC§ Monomer (%)	ASA-HSC§§ Dimer (%)	BSA-HSC↑ Dimer (%)
1	6025.5	10498.7	1552.3	29.38	25.01	33.75
2		10541.4	1509.6		25.92	32.84
3		10730.5	1320.5		32.70	26.06
4		10656.4	1394.6		27.32	31.44
5		10787.5	1263.5		29.01	29.75
6		10608.0	1443.0		26.83	31.93
7		10421.3	1629.7		26.38	32.38
8		10443.5	1607.5		25.83	32.93
9		10720.9	1330.1		28.69	30.07
10		10486.4	1564.6		28.99	29.77

†: Accessible surface area of the YLOV monomer calculated using the VADAR-tool with default settings; †† : Accessible surface area of the corresponding LOV-LOV dimer complex as predicted by the ClusPro Server ‡: Buried surface area calculated for the respective dimer; §: Percentage of the accessible surface area occupied by hydrophobic side chains calculated for the YLOV monomer using the VADAR-tool; §§: Percentage of the accessible surface area occupied by hydrophobic side chains calculated for the respective dimer complex; ↑: Percentage of the buried surface area occupied by hydrophobic side chains in the respective LOV-LOV dimer. The buried surface area in the dimer complexes was calculates using formula 1 and the percentage of the buried surface area occupied by hydrophobic side chains was calculated using formula 2. Clusters (dimer complexes) with favourable surface properties and reasonable orientation are highlighted in gray.

(1) $$(2\times ASA-Monomer)-(ASA-Dimer)=BSA-Dimer$$

(2) $$(2\times ASA-HSC-Monomer)-(ASA-HSC-Dimer)=BSA-HSC-Dimer$$