

Key site residues of pheromone-binding protein 1 involved in interacting with sex
pheromone components of *Helicoverpa armigera*

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Table S1 The calculated binding free energy (ΔG) in vitro between Z11-16:Ald and the WT and different mutants of HarmPBP1.

Proteins	ΔG (kJ/mol)	$\Delta\Delta G$
WT	-45.31	0
F12A	-39.28	6.03
F36A	-47.47	2.16
W37A	-41.06	4.25
F119A	-39.60	5.71

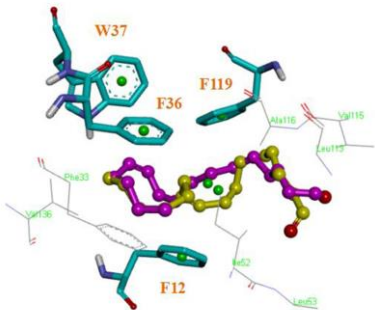


Figure S1 The overlap between Z11-16:Ald and Z9-16:Ald in the binding pocket of HarmPBP1.
 Purple, Z11-16:Ald; Yellow, Z9-16:Ald.

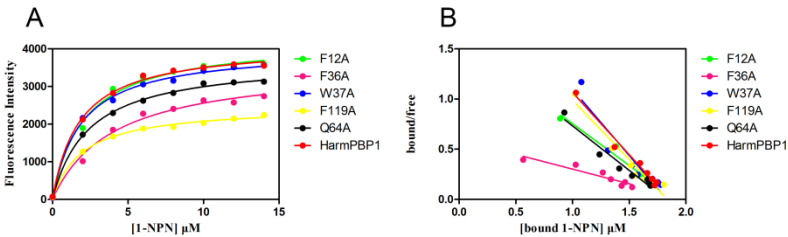


Figure S2 The binding curves and relative Scatchard plots of N-phenyl-1-naphthylamine (1-NPN) and HarmPBP1 as well as its mutants at pH 7.4.