Supplementary Material

Table S1. Primer sequences used in the research

Gene	Sequence （5′ → 3′）		purpose
	Forward	**Reverse**	
AhR	ATGAACCAGTTGGGTACTGT	TCACAATACCATCACCAGTC	Full-length
	CTGTACGGTTTCGGTGTTTG	TCACTTCTTTTTGGGGGATT	qPCR
	taatacgactcactatagggCTGAAGACCGGGAACAACTT	**taatacgactcactatagggCTGAATACCCCAGC AACAAT**	RNAi
ARNT	ATGTACGCGTATGCCGGTGG	CTATTCAAAGGTGCCATCGA	Full-length
	GCCCCCACCGACTTATCTTC	CGTCCTCCATCCTTGCGTAT	qPCR
	ATCCTGCCTTTACGATAACA	TCACTTTGCCTCTCCATTTG	RNAi
CYP345E4	**TTATTGAAGAAAGCCAGGACA**	CACGGACGCAAAGTTCATACA	qPCR
CYP6BX1	TGACGGCATTCTTTCTTAT	CATCACTTCCTGGTACTACAT	qPCR
CYP6CR2	AACCCTTAACAAGCACAGAG	GATCATACCCAACAATTCCA	qPCR
CYP6DE5	ACTGCGGAACGAAATTATTG	GTCTTTGGTACATCGCCTGG	qPCR
CYP6DF1	TACTTCCCCGACCCCCATAA	CTGAGCAACGCAGCCAATCC	qPCR
	TTGGGAAAGAAATGGGGTGA	TGCGGCTGGATGTGAAGGTG	RNAi
CYP6DJ2	GTTAGTTTGCTTTTGTGCGT	CGATTTTGTATCCTTTCTTT	qPCR
GSTe1	TTTGGGCTTGGATGTAGAAT	TTGAAGTGTTGGAACCGTGT	qPCR
GSTe4	TGATGACGGCTCGAATA	GCATGACTGTCCCAAAT	qPCR
GSTs1	TAATGAAGGAACCAGACCCAA	GTCCAATAGCACGGCAAAGA	qPCR
GSTs2	GGAACTACTCCTGCTGGTCAAC	CGTATCAACGGCGGCATCAAT	qPCR
CarE3	AGATGCAGCAGAGGACAGTCACATG	GCTCCATTACGAAGACCGCCACCAT	qPCR
CarE4	GGCAATATTCGTATGCAGCGGCGTT	CCAGGTCGTTCGGCTTCGTGAGTT	qPCR
GFP	**taatacgactcactatagggATGGTGTTCAATGCTTTTCA**	**taatacgactcactatagggCTCTCTTTTCGTTGG GGTCT**	RNAi

Note: T7 promoter sequences in the dsRNA synthesis primers were indicated in lowercase letters.

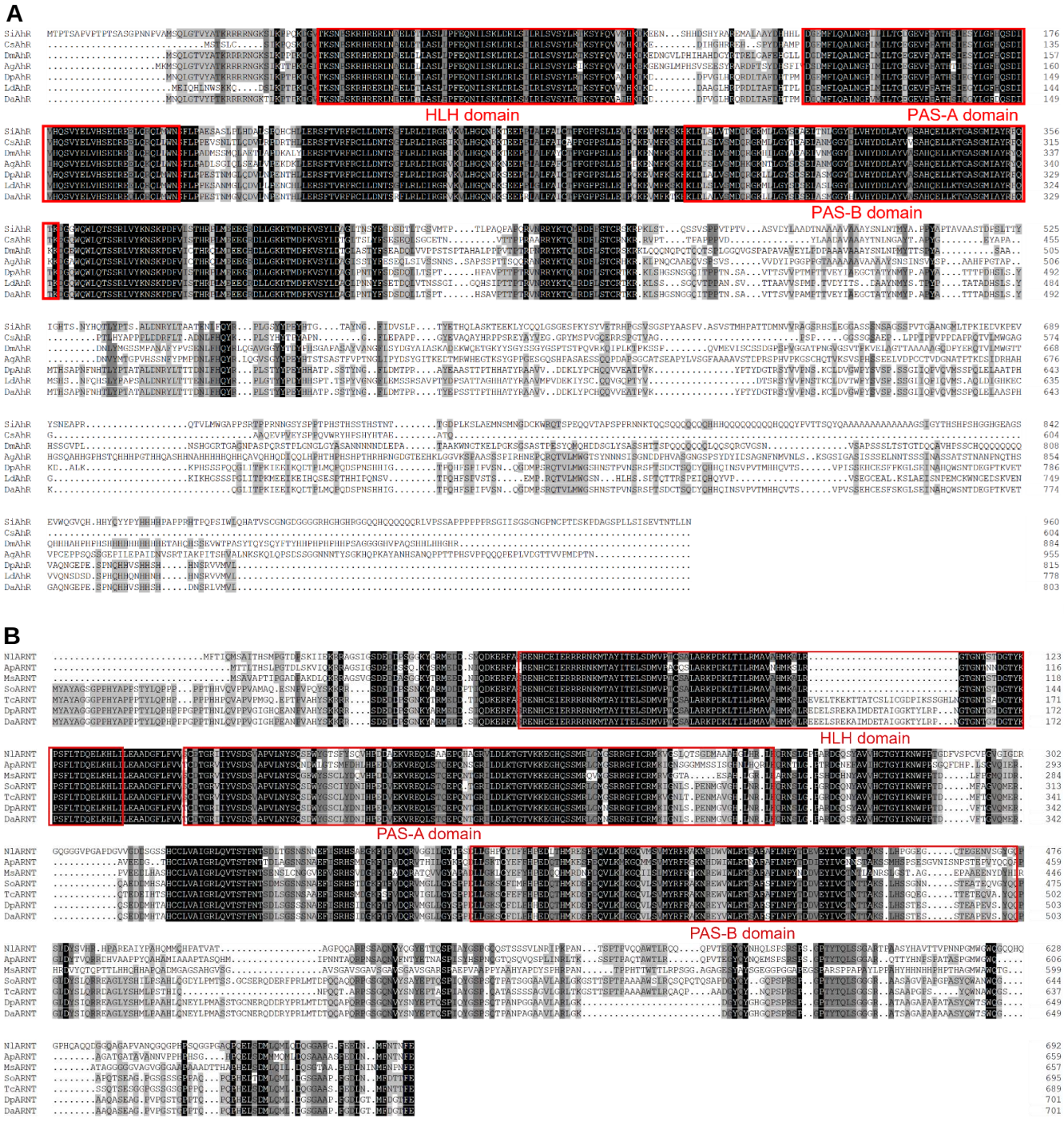

Figure. S1. Multiple amino acid sequence alignments of *DaAhR* (A) and *DaARNT* (B) with six other insect species. Three characteristic domains (bHLH, PAS-A and PAS-B) of *DaAhR* and *DaARNT* are boxed in red.