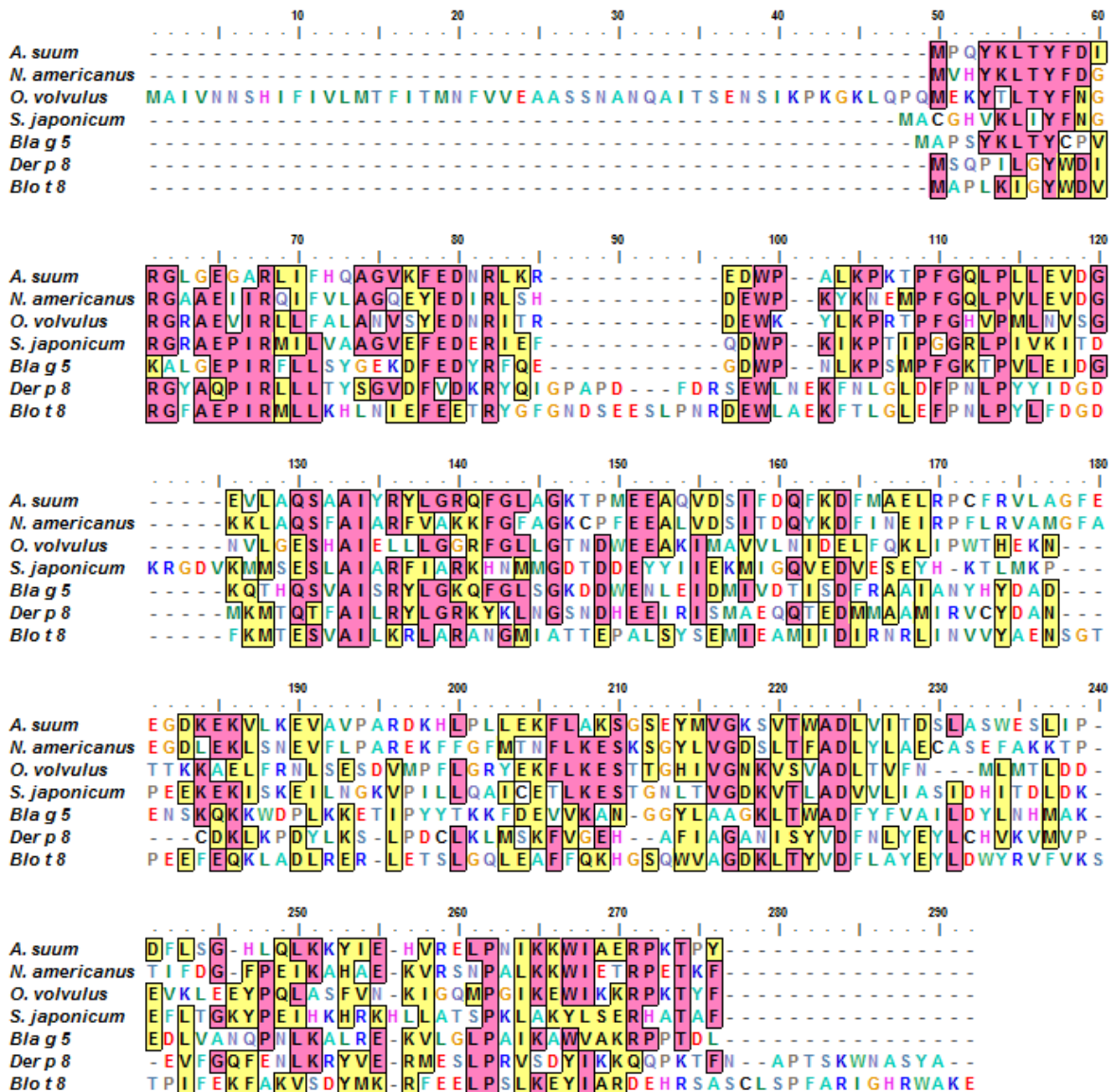


Supplementary file S2. Multiple sequence analysis between parasitic and non-parasitic GST plus the amino acid composition of the patches with surface-exposed residues between *Ascaris* GST1 and non-parasitic GSTs from mites (*Der p 8*, *Blo t 8*) and cockroach (*Bla g 5*).



Amino acid composition of the Patches of conserved and surface-exposed residues between *Ascaris* GST1 and non-parasitic GSTs from mites (*Der p 8*, *Blo t 8*) and cockroach (*Bla g 5*)

Bla g 5 and *Ascaris* GST1

Bla g 5 and *Ascaris* GST1 have 50% of sequence similarity.

Patch #1:

P3, K6, E31, D32, E56, D58, G59, K60 → *Bla g 5*

P2, K5, E30, D31, E55, D57, G58, E59 → GSTA

Patch#2:

Q64, A67, R70, Y71, K74, Q75, G77, G80, D90, D94, D98 → *Bla g 5*

Q63, A66, R69, Y70, R73, Q74, F75, G76, D89, D93, D97 → GSTA

Patch#3:

P41, K44, P45, F49, K51 → Blag 5

P40, K43, P44, F48, Q50 → GSTA

Patch#4:

P192, K195, A199, E200, P202 → GSTA

P190, K193, A197, K198, P201 → Blag 5

Blot 8 and Ascaris GST1

Blot 8 and Ascaris GST1 have 43% of sequence similarity

Patch #1:

K200, E204, P206, K209, E210, I212, A213 → Blot 8

E186, E190, P192, K195, K196, I198, A199 → GSTA

Patch #2:

D10, R33, N46, R47, D48, E49, A52 → Blot 8

D10, R33, K35, R36, E37, D38, A41 → GSTA

Der p 8 and Ascaris GST1

Der p 8 and AscGST have 48% of sequence similarity

Patch #1:

D66, G67, D68, M69, M71, Q73, A76, R79, R83, K84 → Der p 8

D57, G58, E59, V60, L61, Q63, A66, R69, R73, Q74 → GSTA

Patch #2:

Q104, E106, D107, A111, R114 → Der p 8

Q94, K96, D97, A100, R103 → GSTA

Patch #3:

M171, P173, E174, K183 R184 → Der p 8

P172, D173, K182, K183, E186 → GSTA