Sketch of the final figures

Figure 1: Phenotypes

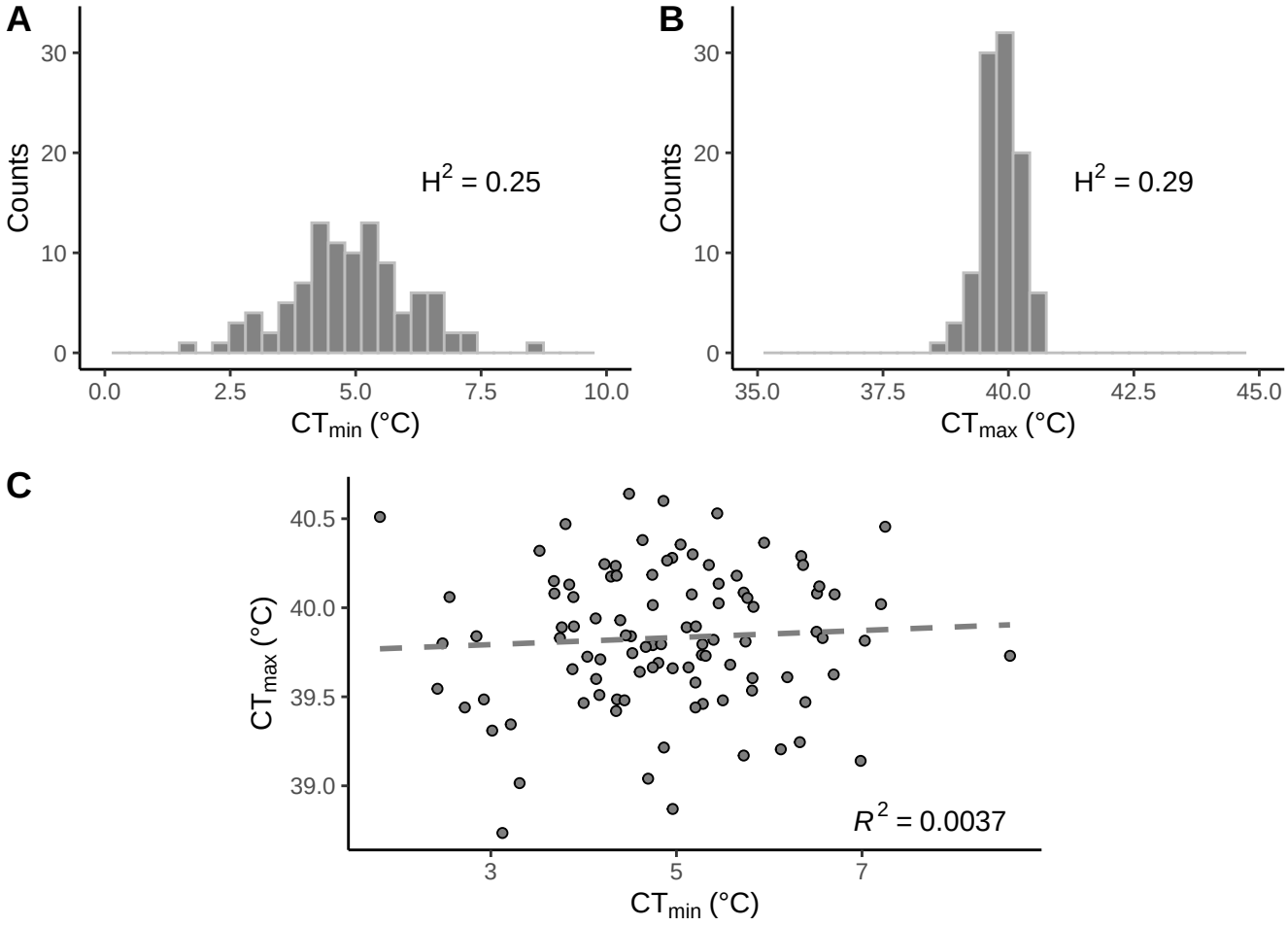


Figure 2: Manhattan plots

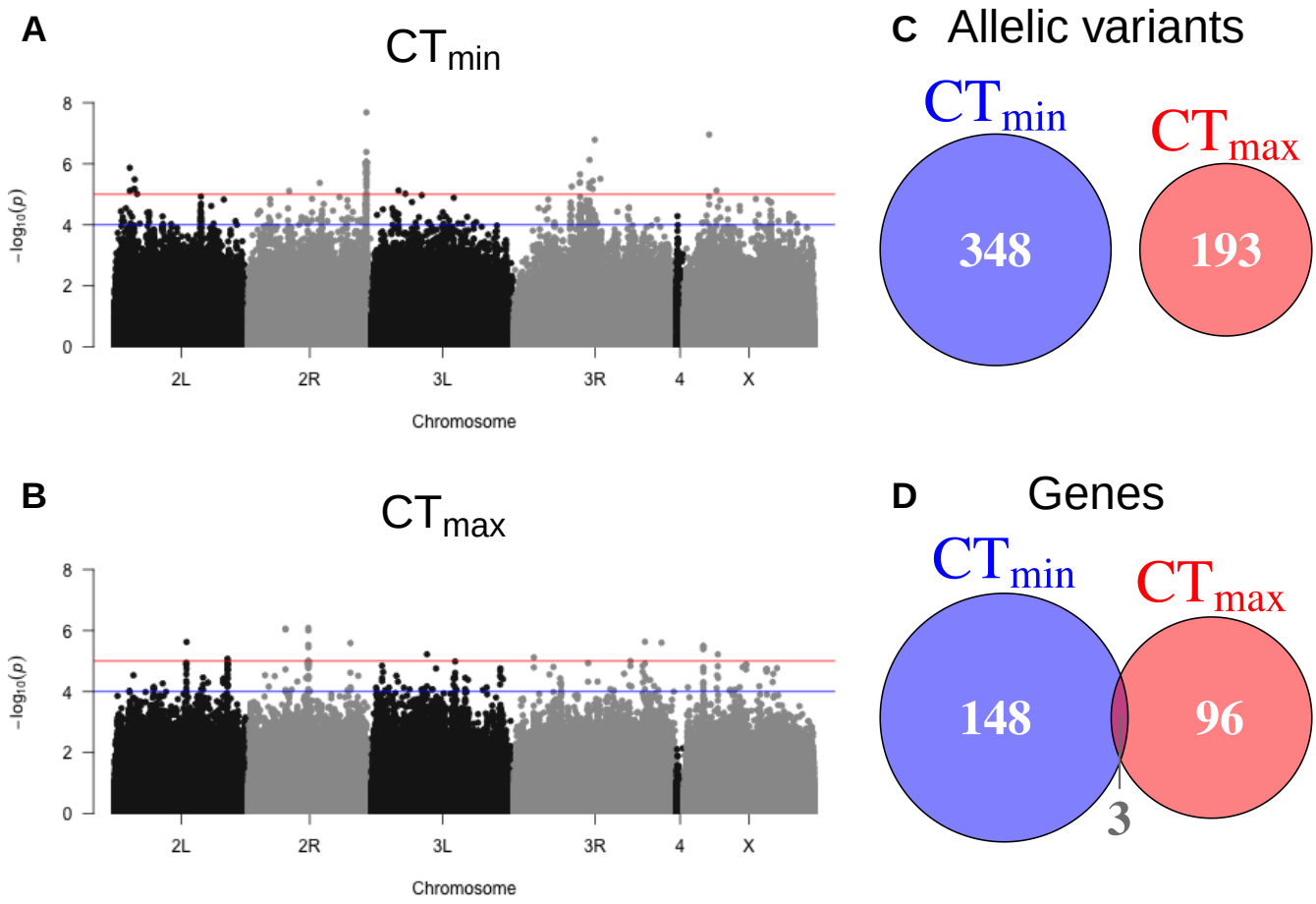


Figure 3: DEG & GWAS integration

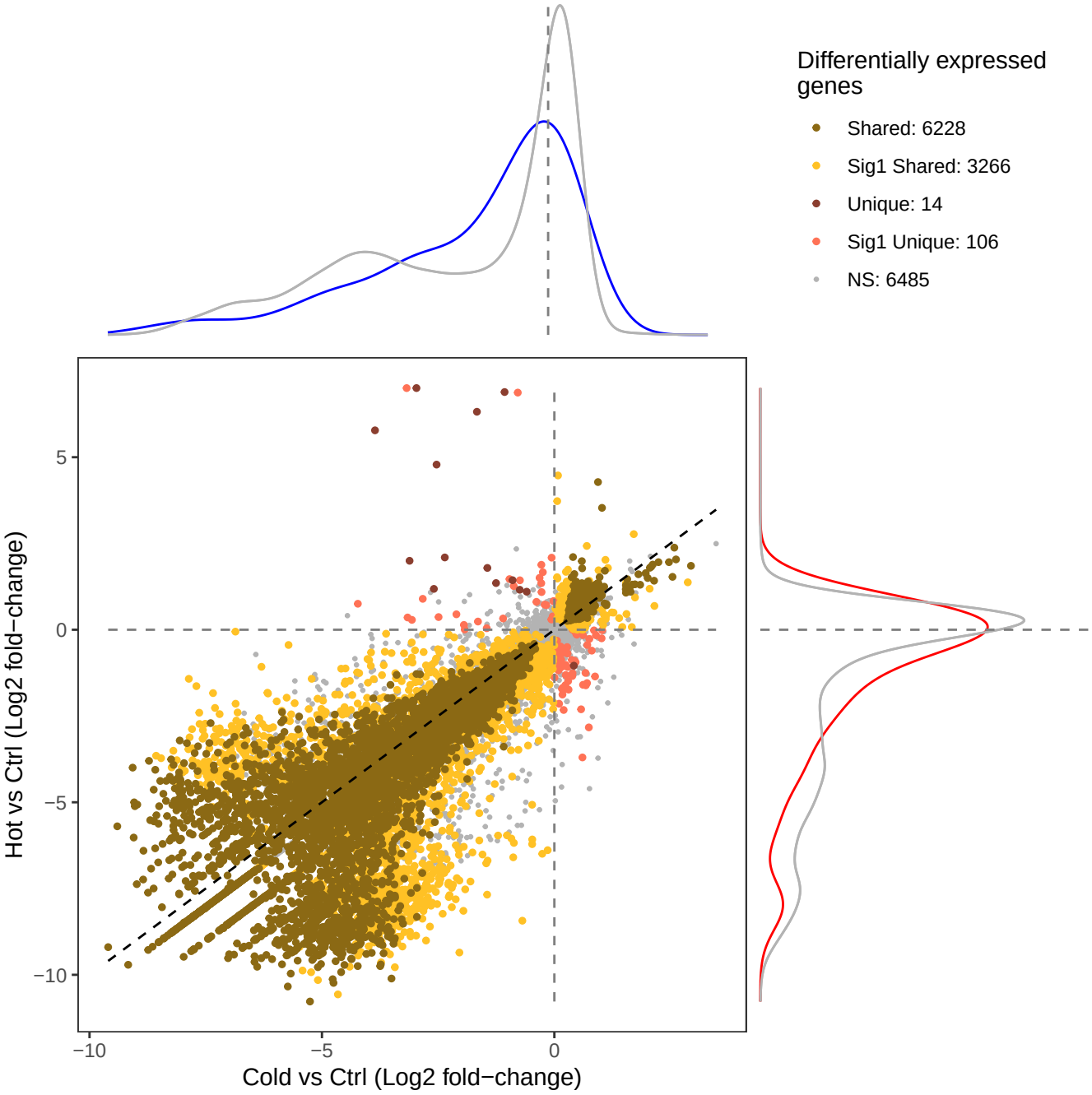


Figure 4: ORA for GWAS

Gene Ontology Category	CTmin Genes													
① neuron projection development	erm	Dscam3	robo3	ham	dar1	NetA	Mp	fru	RhoGEF64C	twf	EcR	trio	ago	shg
② central nervous system development	erm	robo3	sr	fru	twf	EcR	trio	ago	shg	mam				
③ extracellular structure organization	CG42342	Mp	AdamTS-A	psd	Btk29A									
④ cell part morphogenesis	erm	Dscam3	robo3	ham	dar1	NetA	Mp	fru	RhoGEF64C	EcR	trio	ago	shg	
⑤ taxis	erm	Dscam3	robo3	NetA	Mp	fru	Hmgcr	RhoGEF64C	trio	ago	shg			
⑥ cell morphogenesis involved in differentiation	erm	Dscam3	robo3	ham	dar1	NetA	Mp	fru	RhoGEF64C	EcR	trio	ago	shg	

Gene Ontology Category	CTmax Genes									
① biological adhesion	beat-Ia	beat-VII	Grip	disco-r	Pax	Lectin-galC1	Ten-m	fz	Src64B	
② taxis	beat-Ia	svp	ptc	fz2	fra	Moe	Ten-m	fz	lola	Src64B
③ gland development	twi	fz2	fra	Btk29A	fz	lola	Src64B			
④ exocrine system development	twi	fz2	fra	Btk29A	fz	Src64B				
⑤ cell part morphogenesis	beat-Ia	ptc	fz2	fra	Moe	Ten-m	Prosap	fz	lola	Src64B
⑥ neuron projection development	beat-Ia	ptc	fz2	fra	Moe	Ten-m	Prosap	fz	lola	Src64B
⑦ sensory system development	beat-Ia	svp	ptc	fra	Moe	Ten-m	fz	lola	Src64B	
⑧ cell-cell signaling	twi	Grip	svp	kek6	Glut1	fz2	Ten-m	Prosap	fz	Src64B
⑨ supramolecular fiber organization	Zasp66	sls	Moe	Ten-m	Btk29A	fz	Src64B			
⑩ cell morphogenesis involved in differentiation	beat-Ia	ptc	fz2	fra	Moe	Ten-m	Prosap	fz	lola	Src64B
⑪ cell recognition	beat-Ia	fz2	fra	Ten-m	lola					
⑫ photoreceptor cell differentiation	svp	Moe	Ten-m	fz	lola	Src64B				
⑬ epithelial tube morphogenesis	twi	Sp1	svp	disco-r	ptc	Moe	Btk29A	fz	lola	
⑭ reproductive system development	ptc	fz2	Btk29A	lola						
⑮ actin filament-based process	twi	Zasp66	sls	Moe	Btk29A	fz	Src64B			
⑯ sensory organ development	beat-Ia	svp	ptc	fra	Moe	Ten-m	fz	lola	Src64B	
⑰ muscle structure development	twi	Grip	Zasp66	sls	Pax	lola				

log-fold change

min. 0 max.

Figure 1:

Table 1: Gene counts

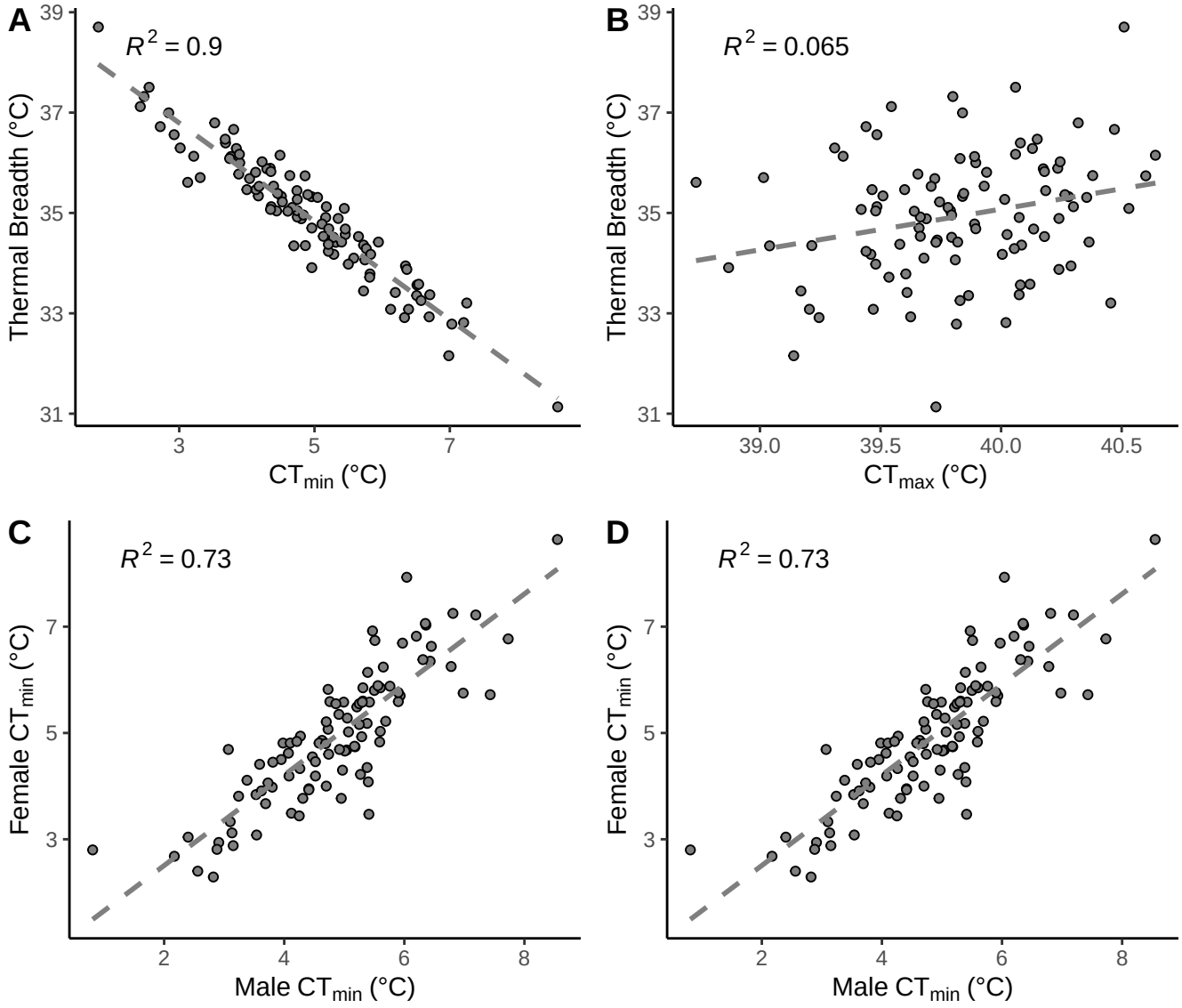
GWAS	Relaxed SNPs	Strict SNPs	Unique genes	DEGs	TFs	DE TFs
CTmax	193	21	99	59	9	9
CTmin	348	53	151	72	12	3

Table 2: Feature counts

Feature	CTmin	CTmax
Intron	171	152
Downstream	40	22
Upstream	35	16
Synonymous coding	31	13
3’ UTR	11	3
Non-synonymous coding	10	7
5’ UTR	8	2
Exon	4	0
Start gained	1	0

Suplementary Information

Thermal Breadth Correlations



CTmin ORA results

GO category	FDR	Genes
neuron projection development	0.0297	robo3, ham, erm, shg, EcR, dar1, ago, RhoGEF64C, Mp, trio, Dscam3, fru, twf, NetA
central nervous system development	0.0297	robo3, erm, shg, EcR, mam, ago, trio, sr, fru, twf
cell part morphogenesis	0.0392	robo3, ham, erm, shg, EcR, dar1, ago, RhoGEF64C, Mp, trio, Dscam3, fru, NetA
taxis	0.0392	robo3, erm, shg, ago, RhoGEF64C, Mp, trio, Dscam3, fru, Hmgcr, NetA
extracellular structure organization	0.0392	psd, Btk29A, Mp, AdamTS-A, CG42342
cell morphogenesis involved in differentiation	0.0392	robo3, ham, erm, shg, EcR, dar1, ago, RhoGEF64C, Mp, trio, Dscam3, fru, NetA

CTmax ORA results

GO category	FDR	Genes
biological adhesion	0.00134	beat-Ia, Pax, Lectin-galC1, fz, Ten-m, Src64B, beat-VII, disco-r, Grip
taxis	0.00789	beat-Ia, ptc, lola, fra, fz, fz2, Ten-m, Src64B, svp, Moe
exocrine system development	0.01030	Btk29A, twi, fra, fz, fz2, Src64B
gland development	0.01030	Btk29A, twi, lola, fra, fz, fz2, Src64B
cell part morphogenesis	0.01840	beat-Ia, ptc, lola, fra, Prosap, fz, fz2, Ten-m, Src64B, Moe
neuron projection development	0.01840	beat-Ia, ptc, lola, fra, Prosap, fz, fz2, Ten-m, Src64B, Moe
sensory system development	0.01840	beat-Ia, ptc, lola, fra, fz, Ten-m, Src64B, svp, Moe
supramolecular fiber organization	0.01840	Btk29A, fz, sls, Ten-m, Src64B, Zasp66, Moe
cell-cell signaling	0.01840	twi, Prosap, fz, fz2, Ten-m, Src64B, Glut1, kek6, svp, Grip
cell morphogenesis involved in differentiation	0.01940	beat-Ia, ptc, lola, fra, Prosap, fz, fz2, Ten-m, Src64B, Moe
cell recognition	0.02080	beat-Ia, lola, fra, fz2, Ten-m
photoreceptor cell differentiation	0.03670	lola, fz, Ten-m, Src64B, svp, Moe
epithelial tube morphogenesis	0.03670	Btk29A, twi, ptc, lola, fz, svp, disco-r, Moe, Sp1
reproductive system development	0.03670	Btk29A, ptc, lola, fz2
actin filament-based process	0.04230	Btk29A, twi, fz, sls, Src64B, Zasp66, Moe
sensory organ development	0.04260	beat-Ia, ptc, lola, fra, fz, Ten-m, Src64B, svp, Moe
muscle structure development	0.04910	Pax, twi, lola, sls, Zasp66, Grip

Cold ORA results

Hot ORA results