The VT GAL4, LexA, and split-GAL4 driver line collections for targeted expression in the *Drosophila* nervous system

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Abstract

In studying the cellular interactions within complex tissues, it is extremely valuable to be able to reproducibly and flexibly target transgene expression to restricted subsets of cells. This approach is particularly valuable in studying the nervous system, with its bewildering diversity of neuronal cell types. We report here the generation of over 18,000 driver lines (the VT collection) that exploit the GAL4, LexA, and split-GAL4 systems to express transgenes in distinct and highly specific cell types in *Drosophila*. We document the expression patterns of over 14,000 of these lines in the adult male brain.

Results and Discussion

The GAL4/UAS system (Brand and Perrimon, 1993) has proven to be a robust and versatile method for targeted transgene expression in *Drosophila*. Large collections of GAL4 lines have previously been generated (Gohl et al., 2011; Hayashi et al., 2002; Jenett et al., 2012). Complementing these resources, we generated a total of 8,166 enhancer-GAL4 lines (the “VT” or “Vienna Tiles” lines) using the strategy described by Pfeiffer et al. (2008). Each of these VT GAL4 driver lines contains a predicted ~2kb enhancer region, or in some cases a promoter region, cloned into the pBPGUw vector or its promoterless equivalent pBPGw. These GAL4 driver constructs were inserted by site-specific recombination into the *attP2* landing site on chromosome arm 3L (Groth et al., 2004; Table 1).

The expression pattern of 7,705 VT GAL4 driver lines in the embryo has been determined using in situ hybridization to detect the *GAL4* mRNA (Kvon et al., 2014). In this work, we used a *UAS-mCD8-GFP* reporter and confocal imaging to reveal the expression patterns of 8,081 VT GAL4 lines in confocal images of adult male brains. Most of these lines showed reproducible expression in restricted subsets of neuronal cell types. Approximately 3000 lines that were considered most useful for neurobiological experiments were selected for recloning into LexA and split-GAL4 vectors.

The LexA/lexAop system (Lai and Lee, 2006) can be used in conjunction with the GAL4/UAS system to independently target distinct transgenes to two distinct cell subsets. In neurobiological experiments, for example, a researcher often wishes to optogenetically activate one population of neurons while silencing or imaging activity in another population. To enable such experiments,

we transferred many of the more useful enhancers and promoters into LexA vectors (Pfeiffer et al., 2010), generating a total of 3,624 VT LexA lines (Table 1). We used vectors coding for LexA fusion proteins in which the LexA DNA-binding domain is coupled to either a GAL4 or a human p65 activation domain (Pfeiffer et al., 2010), thus providing both GAL80-suppressible and GAL80-insensitive LexA variants. These VT LexA constructs were inserted into either *attP2* (Groth et al., 2004), *attP40* on 2L (Markstein et al., 2008), or both sites (Table 1). Insertions in the *attP2* site more reliably recapitulate the expression pattern of the original VT GAL4 lines, but are subject to transvection when paired with VT GAL4 lines also in *attP2* (Mellert and Truman, 2012). The insertions in *attP40* avoid transvection with any enhancer-GAL4 lines in *attP2*, with which they can also be combined in doubly homozygous stocks. The expression patterns of 3,054 VT LexA lines in adult male brains were determined using a *lexAop-myr-GFP* reporter (Table 1).

The VT GAL4 and LexA driver lines, like the analogous lines generated at Janelia (Jenett et al., 2012), rarely restrict expression to a single neuronal cell type. We therefore inserted the most useful enhancers and promoters into the ZpGAL4DBD and p65ADZp split-GAL4 vectors for intersectional targeting (Luan et al., 2006; Pfeiffer et al., 2010). In this system, neither the ZpGAL4DBD nor the p65ADZp hemidriver alone is sufficient to drive expression of a UAS transgene; only when the two are coexpressed in the same cell is a functional GAL4 reconstituted to drive transgene expression. We generated 2,736 VT ZpGAL4DBD lines, all inserted in *attP2*, and 2,826 VT p65ADZp lines, approximately one third of which were inserted in *attP2* and the rest in *attP40* (Table 1). To determine the expression patterns of individual hemidriver lines, they were combined with a pan-neuronal hemidriver (either *elav-p65ADZp* or *elav-ZpGAL4DBD*) and *UAS-mCDB8-GFP* for confocal imaging of male brains. Images were acquired for 1,488 VT ZpGAL4DBD lines and 2,012 VT p65ADZp lines (Table 1).

Our collections of VT GAL4, LexA, and split-GAL4 driver lines complement similar collections generated at Janelia (Dionne et al., 2017; Jenett et al., 2012), with which they are fully compatible. In our experience, the many thousand split-GAL4 hemidriver lines available in these collections ensure that, more often than not, multiple independent intersections can be obtained for any desired neuronal cell type. The critical factor in the success of any such endeavor is the ability to efficiently identify the useful intersections from the several million potential DBD and AD combinations, a task greatly facilitated by the image databases of parental GAL4 lines and, in the case of the VT lines, also the split-GAL4 hemidriver lines.

Our data set of 41,492 confocal images of male brains from 14,635 lines can be accessed online at Virtual Fly Brain (www.virtualflybrain.org) (Milyaev et al., 2012). Many of the VT GAL4 and LexA lines have also been independently imaged in female brains and ventral nerve cords at Janelia (www.janelia.org/gal4-gen1). Approximately 1000 of the most useful VT GAL4 lines are available from the Vienna Drosophila Resource Center (www.vdrc.at). Almost all of the split-GAL4 hemidriver lines, together with a small number of additional VT hemidriver lines subsequently generated at Janelia, are available from the Bloomington Drosophila Stock Center (Table 2, www.flystocks.bio.indiana.edu).

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Methods

VT line generation

The non-coding, non-repetitive regions of the *Drosophila* genome were tiled into ~2kb fragments (Kvon et al., 2014) and individual tiles ranked for cloning according to various criteria considered predictive of a neuronal enhancer or promoter, such as proximity to predicted or known neuronal genes and the presence of conserved cis-regulatory motifs. Selected tiles were amplified by PCR from *w*¹¹¹⁸ genomic DNA and cloned into the entry and transformation vectors as previously described (Pfeiffer et al., 2008; 2010). Germline transformation of *attP2* or *attP40* hosts (Groth et al., 2004) was performed either in house or by BestGene Inc. (www.thebestgene.com).

Immunohistochemistry and confocal imaging

Flies were dissected, stained and registered to the T1 template as described in (Yu et al., 2010). In brief, brains were dissected in phosphate buffered saline (PBS), fixed in 4 % paraformaldehyde in PBS with 0.1 % TritonX100 and subsequently blocked in 10 % normal goat serum (Gibco Life Technologies). Brains were incubated in primary and secondary antibodies for 36 hours at 4°C and washed in PBS with 0.3% TritonX100 for 48 hours at 4°C. Fly brains were mounted in Vectashield (Vector Laboratories). The following antibodies were used: rabbit polyclonal anti-GFP (1:5000, TP401, Torrey Pines) and mouse monoclonal anti-Bruchpilot (1:20, nc82, Developmental Studies Hybridoma Bank) primary, and Alexa Fluor 488 and 568 conjugated secondary antibodies (1:500 to 1:1000, Invitrogen Life Technologies). Images were acquired with Zeiss LSM700 confocal microscopes equipped with 25x/0.8 plan multi-immersion objectives in a single-track mode with 0.5x0.5x1 µm voxel size. Images were aligned by nonrigid registration using the nc82 staining pattern as reference channel.

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Table 1. Numbers of VT lines generated and images.

Driver and landing site	Lines	Imaged lines
GAL4 in attP2	8166	8081
LexAGAD in attP2	446	438
LexAp65 in attP2	658	657
LexAGAD in attP40	2240	1694
LexAp65 in attP40	280	265
ZpGDBD in attP2	2736	1488
p65ADZp in attP2	732	728
p65ADZp in attP40	2094	1284

Table 2. VT lines and images.

CRM (cis-regulatory module) type: E, enhancer; L, promoter facing leftward, R, promoter facing rightward.

Stock availability: BDSC, Bloomington Drosophila Stock Center; VDRC, Vienna Drosophila Resource Center; JRC, Janelia Research Campus; unavailable, stock no longer publically maintained. Availability according to respective stocklists on Oct 1, 2017.

VT	CRM type	Forward Primer	Reverse Primer	Line availability							Image availability						
				GAL4 in attP2	LexAGAD in attP2	LexAp65 in attP2	LexAGAD in attP40	LexAp65 in attP40	ZpGDBD in attP2	p65ADZp in attP2	p65ADZp in attP40	GAL4 in attP2	LexAGAD in attP2	LexAp65 in attP40	LexAGAD in attP40	ZpGDBD in attP2	p65ADZp in attP2
VT000002	E	TGTGCTGGTGCATAACTGTGTTCTAT	TCTGACGATTGTAGTAATTGTTTGTCT	unavailable								3					
VT000003	E	TGGCGTTCCTAATTTGTGTTCTCCGT	TTGACTCGGTGGCGGACCATTT	unavailable								2					
VT000004	E	CCCACACAGGAGCAGCATGTTTAA	CGATCGACGAGGACCAACCGA	unavailable								3					
VT000007	E	TTTACAGTTGACGAGCTTTGCGATTG	CCTATGACTTCAAGAATGTAAACCCCTTTTGT	unavailable								2					
VT000008	E	AGCTGGATGGCGATTACTCTGACCC	CACCTCCAAAGCGATGTTCTCCACC	unavailable								2					
VT000009	L	TGCGCGTCAATTTAAACACACACAAA	CGGCAATCCTTCTCACATACATCC	unavailable								2					
VT000010	E	ACTCTTCACTCAAAAGAGCGCCGA	TGACTCTGTGTGGATCTGCTGGGA	unavailable								2					
VT000011	E	ATCCAGCTGGTTAGCACTACCGGA	GCCCAAGAGTACCTCAATAATGCCAC	unavailable								2					
VT000013	E	CTTACGCTGCCGGCTCTTCAACTTC	ATATTCCAGCACTGCATGATTCCGC	unavailable								2					
VT000017	E	GCTGCTGACGTGGGCTGTACAAATA	CGGGCGGCATTCTCTAAACTCAA	unavailable								3					
VT000019	E	TCGTTTGTGTTGCTCTGTGGGT	CAAAAGTAATGTCGGAATGCAACAAGCAA	unavailable								2					
VT000022	E	CCTATGCGCGGTTGTTATGGCATT	TCATAAGCTGCACATAGGCGGTTGG	JRC						JRC							
VT000025	E	GGGGATCTTGATTATCGCGTTCTCTCT	TCGAAATTGTTGTGCGCACAGTACG	JRC						JRC		4					
VT000027	E	GCAATTTCTGAGTTCCTCAATTTGTTCTCA	TGGCCCAAAAGCCAGACTTCG	unavailable								3			2	2	
VT000056	E	TCCGCAAAATCGTCTTTGTTTTGA	TGTGAGTGGTGAGTGAGTGAATCGG				JRC							2			
VT000062	E	CGGAAACAAAGCTCTAGGGTGAGG	TTCCACTAGTTGGCCGGCTTCAGTT				JRC							2			
VT000104	E	CATTTTCGCTTTCCGTTTGTGCTTG	TGATTGAAGCAATGATCAGTGGGCG	unavailable								1					
VT000105	E	GGGCGAATGGGAGTTCGCTAC	TGTTGCCATGCAAAATGATGCTTTTAC	unavailable								7					
VT000106	E	TGCCAAGTGTTCAGACATGACTCCG	GCCTGTGCTGTTTAAAGCTGTGTC	unavailable								7					
VT000107	E	GTTGCTGTAGCGGATGTGGGG	CATTACCATGGAGCTAAACGGGCT	unavailable								3					
VT000108	E	ATGTGGAGTGCCTGACATGGGCTAA	TTTGCTCTGCTATTCTTCGCCAGC	JRC							BDS	3					
VT000109	E	GCAGCCGTGCGGTAAAGTGAAGAG	CCCAGGCCAACAAACACACAGA	unavailable								3					2
VT000110	E	GGAAAGCGACTGAGAGACAAACGACA	TTTTTCCATTCCATCTCTGCTCT	unavailable								3					
VT000112	L	CCGTTTAAACGCAAAATCTAGCAGCA	GTGGCGTAGCCTTTAACTAAAATACATCAGC	unavailable								3					
VT000129	L	TTTCATTCCAGCAAGGAGGCGTTT	TCAACGCCATCTTTGAATACCAGTGT	unavailable								4					
VT000130	E	AGTCTCGGAGTCTTGCTGCTGTT	GGCGATGCATAACTGTTTTGTTGTTG	unavailable								3					
VT000131	E	GCGAAAGTTCTCATATAAGATCTTCAAAAAGC	CATAGAAACCTGATTGCAAAAGACCAA	VDR								3					
VT000132	E	GAGGCCCAACATGCCAGA	AAACTGAAGCAGGCTCAATCGCC	VDR								2					
VT000201	E	GGACCCATTTCACGAAGTTTGCT	GACTCTCCACGACGAAGGAGGACA				JRC							2			
VT000204	E	CGAAGAAATTTGTACCAAGTGCAGGA	GATGATCTAGGCGAAGGGGATTGG	unavailable								4					
VT000205	E	GGTCGCCAACATAGCCCAAAAGT	GTACAAGCGCCAAAGAGCAGGGAAG	unavailable								2					
VT000239	E	GACCGAGCGACGAGCGAGAGA	TGCAAACTTATCGCGATTGAAGGG				JRC										
VT000248	L	TGAACGCTTGTGCTCGCTAAAGGTA	TCCGCACAGGAGGCTTATATGTTAAGAA	unavailable								2					
VT000249	E	TGAAGAACAGGTACAGCCGAAGAGG	TGCTGCGTGTCTTTCGCTTTTAC	unavailable								4					
VT000250	BL	GCGGGGTGAAGAGCGAAATG	GCCTTGTGTTGCGATGACGGTG	unavailable								4					
VT000251	E	TGCTAATGGGATGCTTCTATGGGG	CGCTGGACTTCAAAGTATCTGCGCT	unavailable								2					
VT000252	E	TCGTATGGAATAAGAGCTCTGCCG	TACTGCTCATTCAAGGTGGGACA	JRC	JRC		JRC			BDS	BDS	3	6		3		
VT000254	E	CATTGAAGATCATCGAGGTGTGCGG	CTTCTGGGTCTGTGACGAGTCAAGG	VDR						BDS	BDS	2					
VT000256	L	ATCGCCGATCTTCGATGCTGCTG	ACTGGAATGAGCAGCACTCTGGGA	unavailable								2					2
VT000266	E	CATTTGAAAAACACGAGAATTTGTTAAAAAG	GGATCGTCTAATGGGAATGGAATGGG	unavailable								3					
VT000267	E	ACTCAAAAACCAACGCCACGCTC	CGCCAGTCATTCTGCCTCTATT	JRC						BDS		3					
VT000268	E	GGATCACTGCAACTGTCAAGGCAA	TTTGTGTCTGTGTCTCAAGTCCAA	unavailable								5					
VT000269	E	CGGGGCACCTTCAGGTTAGG	GCACACCGCTCTCGAACTCC	JRC						BDS		2			JRC		
VT000270	E	GGAAATGACAGGGAAATGCGCTAAA	CACCTGAACCAATAGGAGTGGGCA	unavailable								3					
VT000272	E	TGGGTGAGTGAAACTCTTTTACCGTT	GGGGGCGCACTAATTAACTACAACACACA	VDR								2					
VT000274	E	ATGGGGGTGGTGCAGGATGGT	CCTCGAATGGCATGATTTGGGCT	unavailable								6					
VT000275	E	CGCGGGGGAATTTGTCTTACCA	GCCAACTGCAAAAATGTCGCTAA	unavailable								3					
VT000277	E	GACCTCTGACCTGAATCTTTCCCCA	TCCCTTTTCACTCTCTTGTTTCA	unavailable								6					
VT000278	E	GCAGTCGATCAAGGATCAGTCAG	AACAGTGGGATAACAGGTCGGGG	unavailable								3					
VT000279	E	ATCCCGGTTGAAGCAATCCCATTT	ACCAAGTCCATTCTGCTACTCGAT	unavailable								2					
VT000295	E	GGAGTTTGGGTGGTATTATTGTTAGTTGGTG	TGGCTTTGCAATTGTTTGCAGTT				JRC							2			
VT000309	E	ACCGGGAAGTGGTGACGCGAA	CCGTAGATCTGTGAATATACCCATCATCA				JRC							2			
VT000327	E	CGCTCTACACTCTTCTCGCTCC	ATCCCATTTCTCCACCCACCAAC	unavailable								4					
VT000341	R	GATTTGGTGCATGGGACGAGAGA	TCGTTTGATCTCAGACACGAAGTGAG	unavailable								5					
VT000343	E	TCCAGCATCCAGTATTCAGCATC	ATTGCTGCGTTGCGAGTTGCTCTT	unavailable			JRC			BDS		3			2		
VT000344	E	ATTAACCCCTCTCGCTCGCTTTG	AATGAATGCTCTTGTGGTGGTTG	unavailable								3					
VT000345	E	GCACATTGCGATACCCCTACGAAA	GCGGACGATACGCTGAATACAATAA	unavailable								3					
VT000347	E	GCACAAGGTGTCATTATCGTTTGT	TACAGATCGGCGGGCAGTTAACTT	JRC		unavailable		unavailable		BDS				4			2
VT000348	E	CAGTTCGCCAGGATAGGAAATCAGCA	TTTTCGGAAGAGGAAGTCCCAATAA	JRC	JRC	unavailable	JRC			BDS		3	2	2	2	2	
VT000350	L	CTCTCCGATGCTCGTGGGCT	TGCCCCCTATTACCCCTCATCACT	unavailable								2					
VT000351	E	GCTTGTGTCAATCAGCAGCCAAATCC	GCAGCTTCCCAAGTTTCAGGCTC	JRC							JRC						2
VT000353	E	AGGCCGTTTGTACACGGGCAATC	CAGATCCGCTTTTGGGGTCACTT	VDR		unavailable				BDS		3				2	
VT000355	E	CGTGAGCACATCAACCGCAAG	ATCTGGAACCATCAACGGAGCCAA	JRC		unavailable	JRC	unavailable		BDS		7		2	2	3	2
VT000357	E	CCTTCCACCACTCGGATAACTTG	TGGCTCTGTTCTGCTGCTGCTT	VDR			JRC			BDS	JRC	5			2	6	
VT000359	E	CTGTTAGGAAAACTGGGAGGTGGA	AATTAGAGGTGAATCGGGAGCGGG	unavailable								4					3
VT000360	E	TGGCGTCAACATAATCAACAAAAACACA	TCATGAAAATTGTGCGTACCCAAAGC	JRC	JRC		JRC			BDS		2	3		2		
VT000362	R	TGTGACCATGCACAAAAATGCAC	AGGGCAATCAGAATGAAGGAACGCA	unavailable								2					
VT000440	E	AGGAAGGGGAGAAAAGGAGGCAAGG	GGCGCTTATAAAAACGGCCAATCT	unavailable			JRC					2					
VT000441	E	CAGCGCGAGGATGAGGATGTGG	TCCAGTGTCTTTAGCTGCCATTG	unavailable								2					
VT000443	E	AGTCGTGCGGTGACGAGCTAAAAAC	TTACACACACAACATCTCTAAATTTCCAA	unavailable								3					
VT000444	E	AATTAGCTGGACTCCCCGCAATCT	CGCTACCATTTCCGCTACCATTTCC	unavailable								2					
VT000445	E	GAAGCTCAGGAAAATCGCTGCTCCA	AGCCGTTGACCCACTCCACG	unavailable								2					
VT000447	E	GGCTGTATGCTCTCTAAATGCACC	GTATCAGCAAAATCGCACTCCGCC	unavailable								2					
VT000448	E	CAGATTTGAGGTTGTTTCATTTGTGATG	AGAGCAGAGAAAGGCGGCGAAAAG	unavailable								3					
VT000449	E	GAGCGAGAGAGAGAGGCGATTGA	TAAAAAGTGGGCTTCGCTGCTCC	unavailable			JRC					3			2		

VT000450	E	ATGTGGCTTACGGACTCCAAGCTGA	GGGTATCCACCATTCCGGGTGCTT	JRC	JRC	unavailable	JRC	unavailable	BDSC		BDSC	3	3	2	2	2	2		2
VT000451	E	GGGGAGGGGACACAGTTTACTCCA	CGATTTCGGCCACTTGCTCACTTT	unavailable								7							
VT000453	E	TGAAGCTTACAGACAAGACACAAGAAGGT	CGGGCTAAACAGGACACAGAGATG	unavailable								3							
VT000454	E	GCTTGATCTTCCAAACGTGGGG	CTGTGGATGGAGAGGGCGGTGT	VDR	unavailable		JRC	unavailable	BDSC	JRC	BDSC	3	3		3	2	2	4	
VT000455	E	ATTTTATGGGGCATATTGTGGCAT	caattcacacacacactCGCT	JRC					BDSC	JRC		3		2			1	2	
VT000456	E	ATTTATGGCGGCTGAAGGAGCTGT	GGTCGCTTAACCTTGTTTTCCCCC	JRC					BDSC		BDSC	3				2			2
VT000458	E	GCCTTACGGACAAATCGCCACC	AGCGGAGTGCCECCAGAAGTGTT	unavailable								6							
VT000460	E	AAACAGTCGTATTTCTTCTGCGACCA	ACGAACAGCAGCCCCATCCAAG	JRC					BDSC			6							
VT000461	E	GTGGAGCAGGGAACCTCAACGGG	GCCTTATAGCTAGCTCGCGGTGATT	unavailable								4							
VT000462	E	TGCAITGTATAAAGATATGGCAAGGAGCA	TGGCTGATCATTTGCACTCCCCAAC	unavailable								3							
VT000463	E	GACAGGCGCAAAAACAAGGCAAAAC	TCCTTGTTTGAATTCCACAGTGCAACA	unavailable								4							
VT000464	E	GGTTTTTGCAGACAGCCACAATGCC	ACTCCACACCAACCCCTCGT				JRC							2					
VT000465	E	TAGCCAAAGAGCAGGGAGACAATGA	CTTGTCGGCTTGTGGCCCAATTAC	unavailable								2							
VT000468	E	CTGGGTATTAAAGTCAACTCCCTCCA	GGTTGACCCAGTCTTTCAAGTCCACA	unavailable								3							
VT000470	E	GCGTGATTTGTGGCATTGAATTTG	CCTCATTTTGCACTCCTGATTTGGG	unavailable			JRC					2							
VT000474	E	GTCCACTGATGCCCACTTCAAAAC	TCCAGATCTACCCAGCACTCCGACC				JRC												
VT000534	R	CCCAACATCAATGGTGACGACA	AGTTCCTAATGGCCAAGGCGGTGT	unavailable								3							
VT000535	E	AAACATGGCCCAAGGAGGAGG	ATCCGGAGTGTGGAGGGAACAAGG				JRC					4		2					
VT000536	E	TCAACTACGAACTAGCGATTTACACCCA	CGCAACAGGAAACAAATGAAAAGCA	unavailable								1							
VT000539	E	CTCGAACCGGAACTCAATGAAC	ATGCAATTACCCAAAACGATGGCTG				JRC							4					
VT000549	E	TCAAAATCTGCGAAAATATTACGAAACA	TGGGCTCCCAATAAATGACTAGCGGG				JRC												
VT000605	E	GTGGTAAACGGGGTGCTCGGTCT	GCTGCTACTGATGCTGCCAATGCT	VDR			JRC		BDSC		BDSC	2			2			2	
VT000606	E	GCTCGTCAAGTTTCTCTGCTCGG	GGCAAGATAAACGAGGCAGATGGT	VDR	JRC	unavailable	JRC		BDSC	JRC	BDSC	5	3	2	2		2	2	
VT000607	E	GCAACACAGCCGAAAGCCAC	TTTTCCAGGGGTGGAAAATAGAACGA	JRC	JRC		JRC		BDSC		BDSC	4	2		2		2		2
VT000608	E	TTCTTTTGGCGTTCTTTTCGGCTT	CCGGGACTGGAATCCAAAGAATCCTC	VDR					BDSC	JRC		4					2		
VT000609	E	GCGAAGGCTGCTGCAACAACATAA	GGGGCAGGCAATGACTAACAGAA	unavailable								3							
VT000610	E	AAAACAATTGCTGGACTGCCCGTT	CCAGTGGGATTTATTAAATGTGGCCC	unavailable								2							
VT000611	E	AAACTTGCCTTTGGCTTTGGGGAA	GCCAGGCAATAACACTCCGAGGG	JRC					BDSC			3							
VT000613	E	TCITTATATCCCTGCGGAGTCGCT	CGAAAATTATGGCACACGACTGGGA	unavailable								2							
VT000614	E	GTGTCCTGTATGCCGCTCTGCTC	ATTCAATAGGCTCAATTGCCCGCT						BDSC										
VT000618	E	TCCTTCTAGCCGATTCACTTGGG	GAGCTACAGGGGCCAGGAGTTAAGGA	JRC						JRC		2					2		
VT000619	E	AAGCCCAAGTTCTTTGATGCTGG	TCTGAAAATACACGTACAATTCCACCA	unavailable								3							
VT000620	E	TTATGGTTGTTTGGGTTGTTCTGC	AAGGGGCGTTGAGGCGGTGT	unavailable								3							
VT000622	E	TGGCCATCCATTGCAGATAACCG	TCAGCTCAGCGAAGAGTCCGTGG	unavailable								3							
VT000624	E	GCAAGGATGATTAAGATCAGAAATCAAAGA	GCAAGTAACCTGCCTTTGTGAGCCC	JRC								6		2	2	2	2	2	
VT000625	E	AAACCCACGAAAAGAGATCCCCC	TGGGATACCTTTGACTTTGCAACGCACTT	unavailable		unavailable	unavailable		BDSC		BDSC	4							
VT000627	E	TTATTGCGCGTCTTTTCAITCC	CAATCATCGCAACTGCAATTTATCCC	unavailable					BDSC			2							
VT000628	E	CACCGCAGTTCCCACTTCTCTC	GCCGAGTCCACGGATTTGCTC	unavailable					BDSC		BDSC	3			2		2		2
VT000629	E	CGTAGGCAAGCCCTGAACTCGC	gactcattctgctcttactcataGGT	VDR			JRC				BDSC	4							
VT000635	E	TGCCCTATGAGCGGTAGTTGAAAA	GGGATACCAAGGCCACCCACAAGT	unavailable								3							
VT000652	E	ATGGAAGGATTGCAATGCAATGGG	GAGAGGGAGATGTACGACAGAGGGAGA				JRC												
VT000655	E	CACCCCAAGTTTCCACCAATTTT	TTTGCTTATGCTTTTTCGAGGTTTTTC									3		2					
VT000688	E	TGCAAAAACAGCAGCGCAATTA	TGTGCAAAACAGTGATCTCGCCATC	VDR		unavailable				JRC		7		2			2	2	
VT000695	E	ATTGAAAATGTGCCACACCGGA	CTGCGGAAAAGGAAAGGAGGGATG	unavailable															
VT000755	E	ACATTTTCCCACTCCGTTTCCC	AAGGCCATATTTACACCAAGCCA				JRC			JRC									
VT000765	E	CCCAATAATTAAAGGTTTACAGCTGTCC	GCAATGAAAAGCGAGGTCCGAGTCA	JRC		unavailable			BDSC	JRC		2		2		2	2		
VT000767	E	CACAGCGATTATGAAATCCATTTATGT	GAGCATTTGTAGCAAAATCAGTCAAAGGT	VDR	JRC		JRC		BDSC	JRC		5	2			2	2	2	
VT000768	E	CAGGTGAGGAGCAAGTGCCGATG	CCAACTAGATGGGATTTCCGCTGG	unavailable			JRC					2			3				2
VT000769	E	CGCAAAAATTTCCATTGATTTCTCTCT	TCGGGAGGCAGAAAATTCACAAATAAA	unavailable								3							
VT000770	E	CCATACCAGCGGCCATAACAATCAC	AGCGCAATCAGTGCCACACC	unavailable			JRC		BDSC		BDSC	2			3				
VT000771	E	CGGTAAATGATGACGCTGGCTAAGA	TCTGCGCTATTTCTGATTTTCTCG	VDR					BDSC		BDSC	8							2
VT000772	E	GTTTGAGAGGCGCACTGCTGGGA	GTTTTCTGTGCTGTGGCTAGGGGG	JRC	JRC	unavailable	JRC	unavailable	BDSC	JRC		3	2	2	2	2	2	4	
VT000773	E	CCACCATCAATCAGCCCAAC	CCGCTCTTTTGTCTTCTGCTTTCC	unavailable								3							
VT000774	E	TCATGCCCTTTGTTTCCACTCCCA	GCCCGAATAATGTTGCGGTCAATTTC	VDR		unavailable			BDSC	JRC		5							
VT000775	E	CATGCAAGCTCTTACATCTGCGTCA	CCGGTCAGCTCTCAGTCTGCCATT	VDR					BDSC		BDSC	1		2			3	2	2
VT000776	R	CGAGCCAAGATGACAAATGGAAAGGA	GTGATTTTCTCTGCGGATTTCCCG	unavailable								4							
VT000808	L	TGAGAACCAAGTGTGACCGCACTCAA	AGGATCATTACCCCAAGCCAGAGA	unavailable								2							
VT000809	E	TCGCAACATCAGCCAAGCATAAAGC	CAACGCACAGCATAATAACAGCCC	JRC			JRC		BDSC		JRC	3							
VT000810	E	cgctgtgtctctgtctgtctC	GGAAAAGCTGAGAAAGTGGGAAA	JRC		unavailable		unavailable	BDSC		BDSC	4		2		2	2	2	2
VT000811	E	TTCTTGGTTCGGTGTCTATGTGG	TCAAGTGAAGAGATAAAAAGCAGGGAA	JRC			JRC		BDSC	JRC		3							
VT000812	E	TCCCATCTCTTCTCAACGCAAC	TACACACATGCAGAGCACTCGAAA	JRC	JRC		JRC		BDSC		BDSC	4	2		4				1
VT000815	E	TACAATGAAGCTGAATCCCTTGGCA	CAATAACAAATTCGACACACCCAC	unavailable								3							
VT000816	E	GCTTCGATCAATTCTACCCAAAG	GAGGCAAAATAGATCATTAAGTAGCATCAGCA	JRC					BDSC		BDSC	4							
VT000817	E	CACGCAAGGAGCAGCAAGAAATAGAG	AAAGAGTGCATAAAGCGGGGAAA	JRC					BDSC		BDSC	2							2
VT000818	E	TTGCGTCAGAGTCAATGACTGGCT	TCTATGCGTTAGCATGAATTTCTCGG	unavailable								5							
VT000820	E	TGCAAGTGGGTAGCTGCACAGAA	AAAGTGTATGTATGCTAAAGGGGAGAA	unavailable								3							
VT000821	E	GCCCTTCAATAAGTGTGAGTGTGTGT	TGCTTTTGGCGCTCATTTCTGAG	unavailable								4							
VT000822	E	CCCAAACTATGCGCGCTGA	TGATAAGCGAAAAGGCCAAAACAAAA	unavailable								3							
VT000823	E	CCGAGTGGAAAGGTTGGCTCCTC	GCGAATGTGCACTCAATATACCCA	unavailable								3							
VT000824	E	TAGAGGGTGGGTGCAAGGACAAA	GAGATTTCACTGAGCAACAGCAAAAC	unavailable								4							
VT000827	E	ATTGGGCGTCTCTGAGGCAATGGT	TCATCTGAACTTAGAAAAATAGGCGCATCAA	unavailable								3							
VT000829	E	TGCAAAATCGAATCGGCAGTCAAAAA	CTGCTTCTGTGCGGTTGCTTTTAC	unavailable								3							
VT000830	E	ACGCGAAATTGCAACAAATCAACT	GCATTCGCTCAGTTACAACATGGCT									3							
VT000831	E	tggtgTGTGGGCTTCCGCAATT	CAAACTTCATTTTGGAGTGCCTTTT	JRC	JRC		JRC		BDSC	JRC	BDSC	3	3			2	2	2	2
VT000832	E	TTTTCGCATTTTGTGCTTGTCTT	GCGGAGAAGCAACAAGAGGAAG	unavailable								2							
VT000833	E	CCCTATCTGCTGTCTCCCTTCTCC	GCTCCTCGTTTCTGGCCACCC	unavailable								3							
VT000834	E	TTTAGCTTCTTCCATTGGCCGGAT	TTTTCTGTTGGCAGCACAGC	unavailable								1							
VT000836	E	CCCCCTTCTTGGAATTCCTGCTTC	TTTGATGTATATTTAATAATTTCAGCCAGC	JRC					BDSC			2							

VT000837	E	TCGTGACAAATGCTGCTGGAAACAA	GAAAGAAAGCCGAGAAAACGGGGAA	JRC	JRC	unavailable			BDSC	JRC	BDSC	3	2	2			2	2	3
VT000838	E	CGTAGTGGCAATCGAGACGAAAAACA	CGCAAATCAAAGCAAAACAGCACCA				JRC												
VT000841	E	TCGTTTGTGTTAGCAATTTTCAAACGC	TGTTAATGGATGGTGTGTAAGCTGTTCTC	unavailable								3							
VT000842	E	CGTGTTACGGGAATGGGAAAGTGTG	GAGCCGATGAGTGGTGGTGGGAAG	unavailable								2							
VT000845	E	CTGCACCAACTGCAAGGAAAAACAC	GCTCAGGTATCTGCTGGTAACTATCTGCC	JRC					BDSC		JRC	2							
VT000847	E	AAAAACAAGCATCCCATGCAACGA	AGAAAACAAGCGGCTAACTGGGTGG	unavailable								2							
VT000848	E	CTAATAAGCCGATGCCCGAGGA	GCTCAAAATCAAAAGCATTTGCACGA	JRC					BDSC		BDSC	3					2		
VT000849	E	TTGCCAAACTGCATAATGGTGGAAA	GCTGTTCTTACGCTCCGCGCTG	VDR			JRC		BDSC		BDSC	4					2		2
VT000850	E	AACTTTTGGCACACCTTTGGAAAAACA	TGTGGATTTCATTCCTTTTGGGG	unavailable			JRC					3							
VT000851	E	TTCTTAGTTGCGCTTCGCGTTTCGT	GCTGTGTCGCTTTTCGCTTTTCCT	unavailable								2							
VT000853	R	CAGTTCAGTTCAATGCGAAATTTGAAGA	TTTTGCTATGGTGTGCTAGAGCTGGA	unavailable								4							
VT000868	E	TTGTGCAGATAGAGCAGACAACGTCC	AACTTGGTGACTACCCACCGCAAA	unavailable								3							
VT000869	B	CCAGAGTTTTGTGCGACTCTTAAAAACGA	AAACCACTGACTACGCGAAGGGAAA	unavailable								3							
VT000869	BL	CCAGAGTTTTGTGCGACTCTTAAAAACGA	AAACCACTGACTACGCGAAGGGAAA	unavailable								3							
VT000870	E	CGCTTGTTCATTTCCTTCGCG	GTCTATCCATGTCGCGGCGCAGAAA	unavailable								5							
VT000871	E	GAGCAGACCGAAATGCCAAGTAGCC	TGTGCGGAGAATGCCTTAATTGTTG	unavailable								4							
VT000872	E	ATTTTCCCGCACTTAATGCCAGCC	TTCCGAGTGCCTGCTTCAACATTC	unavailable								3							
VT000873	E	TTATTCGCGTTGCGAGTTGGCAGTT	TGAGCATTTGGAGTGCACATGCT				JRC									2			
VT000874	E	GGGGTAAGCTGGTGTAGCTGGTGAG	ACTGCTGTGGCACTGCTGTTCT	unavailable								2							
VT000875	E	AGGTGACCAACGACCTGAACGAGTT	CCAGACGACTCAAATAGCTGGCCCT	unavailable								5							
VT000877	E	CGCTTGCCAAAGCCGCTGAG	AGTTGCCAAAATGCGCAAGAACAG	VDR					BDSC		BDSC	3					2		
VT000884	E	GGATAAGCTATTGAAAAATTCGCAAAAAATCG	GCCTTCGCTTTCAGGCTAACCC				JRC											2	
VT000921	E	AGGGTGCTTTATGGTGGAGTGGG	TGCAGCATCAGTAGTGGAAAGAAATTTCA	unavailable								3							
VT000922	E	TTTTCCAGACATAGAAGGGCCACGC	GGCGGGGGGAGCTATCTTGAGCTATT	unavailable								2							
VT000923	E	GCCTTTCACTTCACATTTTCCCTT	GCTTTTCGAGTCAAGTCAATTTGTTATGGTT	unavailable								3							
VT000925	E	ACACACCTTTTCATCGGCATCAG	TGCATTACATCTCTGTATCTCAGCCCC	unavailable								5							
VT000926	E	TTACCCCGCCAAATCTGTTCTCT	TTTGCTACCACTCGCTTTTCTCTG	VDR		unavailable	JRC		BDSC	JRC	BDSC	3		1		2	2		
VT000927	E	TCCGCTTTCCCTATATTTCCGCTT	TTATCGCTGGACACCGGCTTCACT	JRC															
VT000930	E	AACTTTTTCGCGGATTTCTTTCG	GTACTCTGCTCGCGCTGCT	unavailable							BDSC	1							2
VT000983	E	CGACACGCGCTATGCGAGCTTTT	AGGTAGCCGATCTCTCAGCGCA	unavailable								4							
VT000985	E	CATCATGAAGCTCAGAAGCATCTCTAAAA	CCGCGTGCTTTTCTCATTTGACTC	unavailable								2							
VT000986	E	AAATATGAAGGCGAGCAACGTGGGA	TCGCGTGTCAACACCTAGAAAGA	unavailable					BDSC			3							
VT001008	E	AAATAGTGGGTGTGGGAGGAA	TGCACTTGAGATTGACCTGAAACTTACCA				JRC												
VT001009	E	CGGAAATTTGGTCCGGAATTGTGTG	GCATTAAGAGCTGTGAACCTTTTAGGCAAG				JRC										2		
VT001015	E	caaaaacggaaacagaaacAGATAAAACCA	aagtgaagtgaagcggagggaggga				JRC										2		
VT001019	E	CCTGAAAGCCAGTCCGAAATGCAAA	TTAAAGTCATTACAGCTCTTGCCACAA				JRC												
VT001053	E	CATCAAAATTAAGGCGGGAACGTCCA	TATGAGTGCAGCTAAGTGGCAGCGG				JRC												
VT001069	E	GCACACAAAAGCCGCTTAGCAAAAT	TCCAATTTATGTTAAGCTCCATTGCTTTATG				JRC												
VT001082	E	AAAAGTTGACAATTCACACCTGAACAAAAGA	ATCCACGATCCACACACGAAAAAC	unavailable								2							
VT001083	E	ATGGGACACAGAGCTACAAGGCCAGA	AGGAACCACTGAACCTCGAAACCT	unavailable								3							
VT001084	E	TTTTCTTTCGCGTGGTGTTCGTT	TCTCCATCATCATCAACCCCTCT	unavailable								6							
VT001085	E	CGCCTTGAAGTGTGTTTGTTC	CTGGCGGAGTGGGAGGTGAG	unavailable								2							
VT001086	E	CTCCGGTGTGTTGACTATTGATCGG	CGCAATGTTGTGAAGGAGCTGGAA	unavailable								2							
VT001090	E	TCAGTGTGTAGTATTGCGGACGTTT	TTTATGGGATCTGGGAGTGGTTTT	unavailable								2							
VT001091	E	CCATAGCGCCCTGCGATAAGATT	CAGTCAAAAAGAACTGCGGTGCTGG	unavailable								5							
VT001093	E	CTCCCACTCACTCAGATCCATCC	GATGAGGCCCTTTTCTCATCTCGCT	unavailable								5							
VT001094	E	TGCAATGGAAAACAGAACTGCTGA	GTGGAGAAGGAGTGGGGAATGGA	unavailable								3							
VT001095	E	GCGGCACAAAGGGAAATTCACATGA	ACGTGCAGAAAAGGCGAGTCAAAA	unavailable								2							
VT001096	E	ATGCGGTAAATGCGCGCTAAAGAAG	GCTGCTCAAAATGAGCAAAATAGCAAA	unavailable								2							
VT001097	E	CCCAACCAATAATCGCTCAACCCAC	TCGTGTCGATCGCATCGAA	unavailable								2							
VT001148	E	GCAAGTTTAAATTTGTTTGGCACTTGAGA	CAGTAAGTGAACCCCAATTTAACCCCA				JRC												
VT001194	E	CGTTTTAGGGCTTAAACTAGTCCCCTTG	AGCAACAGCTATGTGACGTTCTCTCTT				JRC												
VT001196	E	GCCAGCTTACTCCATACCAAGAGTGC	TCCTTCCTTCGCTTGTGCTG				JRC										2		
VT001205	L	TCCAATGATATTTCTCCAAAAAGCCG	TTGAGAAATGTGAAATTTGTCAGTTCCTT	unavailable								3							
VT001206	E	TGCAACCTATCATCTTATTTAGCTTGCA	GCGGATGAAATTCCTTCCCTCTCAA	unavailable								2							
VT001207	E	CTGGAAGTCGTTGCTCAGGAGATG	CAATTTGTCGCGCTAATGGGTTGTA	JRC	JRC				BDSC			3		3			1		1
VT001208	E	GGGATTACGGAAGGCAATGTTCTTC	TCATATTGCAGAACTTCAAAATCTATGCTCAA	unavailable								3							
VT001211	E	GCTTCTTTACACAGATGACCAAGGGG	GACTTCCGCTGGCTCCAGATT	VDR								3							
VT001213	E	GTTTCACTTCGTGCGTTGTCTGCT	TGCCACCATCATCGCTGACACTT	unavailable	JRC	unavailable		unavailable	BDSC		BDSC	8	2	2			2		2
VT001214	E	TGAAAAACGCCAAGAATGCGTACAT	tcATTTAGAACATATCAGCGTCGATTT	JRC		unavailable		unavailable	BDSC		BDSC	5		2			2		2
VT001215	E	CGGATATTGATACGACTGGCGACT	GTACTGTGATCTTGGGAGCGG	VDR								3		2					
VT001217	E	GCTCTCAATTGCGGCGGCTT	GTAACATCCCGTAGGTCGGTGGG	VDR								4							
VT001218	E	TGAAGGTCAATTAAACCACAACAAATTAAGCC	TTCTATGCGGGGCCAACCACTC	unavailable								4							
VT001219	L	TGAGGAGTGTGAGATTCAAGATACAAGATTATG	CTGGCTGGCCTATTTTCCCCCA	unavailable								2							
VT001229	E	GCGTTGCTTCTGCCACAGAGTGTG	GAGACTGACCAATTTCTTCCGCGG				JRC										2		
VT001257	E	GGGGATCGAGGATCAAGATCGAGG	GTGAGGGGAACGAGGCTACGAGG				JRC												
VT001298	L	GAATGTGATGTTAAGGCTGTCTATT	TTTTGACACCGACTCGACTTTCC	unavailable								2							
VT001404	E	AAGCGGCAATTTCTAGCCATCGAAC	AAGCGTGAAGATACATTTATAGGGACAAAAGC	unavailable								2							
VT001406	E	CAAAACAAAAATGTAATTGAAGGCAATTTTCG	TGGCATCATGACTGCTGCAATA	unavailable								3							
VT001418	E	TCGGCATTTTGTGTTCCAGTATGT	TTGTGGAATCTGATTTCTGTTCTGAATTTG	unavailable								3							
VT001420	E	TTTTACTTTGGCTTCTGCTTTTGT	TCGGTTCAACTATGCTGATTTCAACTCT	unavailable								2							
VT001422	E	TCAGGTTTCGATTGATTTCCCA	TTTTTACACACCACTTCAAAATGCAAAATATA	unavailable								1							
VT001424	E	TTCCCGCTGAATGGTAAATTTTCG	TGGCTGAGAGGATAAGTGGTTTGGT	JRC					BDSC		BDSC	4							2
VT001425	E	CCTTTGACCTGAAGTGCCTTTGTTG	TACTGGAAGCAGCTGTTTGGCCCT	unavailable					BDSC			3							
VT001426	E	AAATGGCAATCACCAAGGTGGAC	GGGTGCTGCAGCTAAAGAAAACATACTC	JRC			JRC					3							
VT001427	E	TCACACAAAAGGATTTTCGGGCGAC	CCGGTTCGCTCTCGCGTTT	unavailable								3							2
VT001432	E	TCAATTAACGGACCTTCTCTCCG	GGATGCGGCTGGTCTAGGATG	unavailable								2							
VT001433	E	CCCATCTTCGACGGGATGACACTCT	GCAGTGATTGGATGAGTGGCT	unavailable								4							

VT001434	R	GCAGAAAACATGAAATCGCAAAATAAAACA	TTGGGCAACTACCATAAAATCAATCACTC	unavailable								5							
VT001482	E	TGCGGTGAGGATAAAGCGAAATATACCA	CAAGGACACACACATACATCCGACACA			JRC													
VT001483	E	TTGTTGTGTGTGGTGCCTTT	ATCCGATTGATGTGCTGTGGTAG	unavailable								2							
VT001484	E	AGCAGCCAGCAGCAACGATTGGGA	TCATAACTGGCACACACAAACAGACA	VDR	unavailable	JRC		BOSC	JRC			3							
VT001488	E	TGAAGAAGTGAAGTGGCAAGTATTTGGTGTG	TAAACCTCGAGGGGATTTGGGTTTT	VDR		JRC		BOSC				3	4	2			2		
VT001497	E	GCCTCTCTTTGGTGTGTCTCA	TGCTGCTTTCTGTCTTTGCTCGC	VDR		JRC		BOSC				2		2			2		2
VT001498	E	GAGGGACTGGGTGTTAGGGGCTTC	TAAGAACCCAGGAAGTCAACCAA			JRC						2		2					
VT001581	E	TCGAACAACCAAAATTTACACTTCCCC	GATGATTTTTGTATTATGCAAGGCGTACA			JRC													
VT001587	E	CTTTTTAGCCCGGTTGTCAACGCTT	AACGCCCAACCTTTTCGCTCAC			JRC								2					
VT001592	E	TTCCGGCTGTCTGGCGATATTTTCT	GCGGTCTCTCTCTCTCTTTCGCGTG	JRC	JRC			BOSC	JRC			3	2	2			2	2	2
VT001593	E	GGGTGAGGTAGAGCAAAATGAAGACAA	AACAAGGCCCAAGTGTGTTGTGTG	unavailable								4							
VT001594	E	CAGTCGAAGGTGGTTGGATGGGTTT	GTTTTGGTGGGTGAAATCAACAAGT	VDR	unavailable			BOSC	JRC			3		2			2	2	
VT001595	E	GGGGTGACATTGGAAGAATCGTGGT	GGAAATCGCCTAATGCCCCGTC	JRC				BOSC				4							
VT001596	E	CTTCGCAAAACCGGGCTTATCACCT	GCTAACAAAGTGGGAGTGTGGCTGG	unavailable								3					2		
VT001597	E	CGCCATGGTAATGCTGGATGGTAG	CGAAAAGAGCAGCAACATCATCGG	JRC				BOSC				3					2		
VT001599	E	TCAACACCCCGAAATCAATAACGAA	ACAAACGGGCAAGGCTTTTGTTC	JRC	JRC			BOSC	JRC			2	4	3			2	2	2
VT001600	E	CGCAAAATGCAAAATGTCGGCT	TTGTTTTACATAGCGGGGGCCATT	unavailable								3							
VT001601	E	AATGCGATCATGGCTTTTAGCAAC	CGGCAATAACAACCGAGCAATGTG	unavailable								1							
VT001603	E	CGGAATATCTGAGTGGCCTTGGGTG	CATAAGGCAAAACGGGCTGCAAGAA	unavailable								4							
VT001604	E	CATTGGGCAACACCGCTTTATCGT	GCCATACAAGTGGGCTGAGTTTTTC	unavailable								2		2					
VT001605	E	GAATTCAGCCCCACCTTCGATAAA	TGCAATGTCAAGGAGAGCGGAGAAA	JRC								4					2		2
VT001606	E	CAGGCAGCCATTTTAAAGTGTGATTGCT	TTGAGTTGCTATATCTCGCATTCGCC	VDR	unavailable							7		2			2	4	2
VT001607	E	CCTGGGGTCAATGTGTCAGCACTTA	GTGAAGGTGTGGGAAAGGAAGGA	unavailable								4							
VT001608	E	CAGATCAACCCCTCAAGTTGTGGGC	CCGAAGGGAAAAACAATGGAACAGA	JRC	JRC							5	2	2			4		2
VT001609	E	GAATTCATATGACTTCATGTCGAGGTAAAGGGT	CACGACACACATTTATGGCAGCA	JRC								6							
VT001610	E	AAACGGTAGTGGAAGCATTAGTTAGCTTTT	CCTCCTTTTCCCTCCGCGCTATT	unavailable								2							
VT001611	E	ATGTGCGGCTTTTTCGCCA	GTCTTGAGTGGTTTTCCAGACGG	JRC	unavailable	JRC		unavailable				2		2					
VT001612	E	TCCGCATAAGTGGGTGGTAGCAACA	CAGGAAGCTGAAAGAACGGCTAAA	unavailable								2							
VT001615	E	AATTCGAGTGGCGAGGAACGAG	AAAAAGAAACGGCAACGCCCAAAA	JRC				BOSC				4							
VT001617	E	TGCCAAAAAATAACAACAAACAACAAGA	CGGAAAGCGGTGGTGTCC	unavailable								3							
VT001619	E	CAGCAGGAAGGTGAACAACAATGGA	CTTGATTGCTATCTGCTGTTTTG	unavailable								2							
VT001787	R	CGGGAGATGGGGTCTTATTGCTT	TGCTATGTGTCACCGTGGCTGTC	unavailable								2							
VT001839	E	AAATCCCAAGTGTCCAGCCCATCC	CCCCGTAGCTGATCATATCACTCTT	unavailable								2							
VT001848	E	GAAAGAAAAGCTCAAGCTGAGAATGCAA	GAGAGCATCAATTTATAGACGGACAGC	unavailable								2							
VT001872	E	CCCGTTCAAGTCCACATAGTTCGGC	TGAATAATTGCACGCTAACGGCGTA			JRC								2					
VT001885	E	TGTGGCGAATTAATTACGGCATTT	TGGCAGGTCAATTCCTGTGTTGTG	unavailable								2							
VT001886	E	TCAGGATACAAGCGTAGGACGACAC	CCCTGTCAAGTTCAAGAGAGATTTCCGATT			JRC								2					
VT001887	E	TGCGACTTTAAGCACTCAACCCA	TACAGGGGCCAAAATCAATCTCA	unavailable								4							
VT001888	E	GATGTGCTTTCTCCCTCCGCC	GTCCGTCTCTTCTCTCCGTCCTCT	unavailable								4							
VT001964	E	TGCTTGGGTAAACACGATTGTTATGG	GGGACACCGCAAAAACATAAAGGCA	unavailable								3							
VT001965	E	TTCTTGCGCCTCTAGTGTTCAGGA	CGGCAAGTGAAGTGTTAGGCGTGG	unavailable								4							
VT001966	E	CCTAGCACTGCGACGAATCTAAAG	AGCGGGAGTAGCGTACCACGACAAA	unavailable								3							
VT001967	E	ATCGTAGGGGTGGGCGGTACTAA	ACATTGAATGAGCATCTGCAAAACG	JRC				BOSC				4							
VT001968	E	GCCTTTTAAATTGATCAACTCTAGCCGA	GAGACGGCAATCGAGCGTAGAGAA	unavailable								3							
VT001970	E	CGAGAGCCCTGTGATTGTCTACC	GAGACCTCGGACTGATTAGCACTT	unavailable								3							
VT001971	E	CTCCCCATACATACATCGCCCC	ATTGCGGTCAACAGAGAGGCCAAGA	JRC				unavailable	BOSC			6			2		2		2
VT001972	E	GCAAGAGTGTGGAAAAGTGTTCAGG	CAGCAACAACAGGCTCAACAAGCA	unavailable								4							
VT001973	E	ATTGCTTCTTAACCTGACTGCTG	CTCGTTTTTGCCTCTGACGCGTTTT	unavailable								2							
VT001974	E	CGACTTGGGCGCTACATTTTTAGGA	TCAAGGCACTTTTACTCTGTTATGGAAGTGA	unavailable								2							
VT001976	E	CGAACGGAGCGATGAACAACAGAAAC	AACGGGTCAAGGAGGATGGAAC	unavailable								3							
VT001977	E	ACAATGCTGGATCAAGGAGGCGAG	TCGCGGCAATGAGTAGCAAAAACAA	unavailable				BOSC				3					2		2
VT001978	E	TCCCATATCTTTTCCGAGTCCCT	ACGCAATTGCACTTCTCCTCTTTTC	unavailable								3							
VT001979	E	CCATGAAACGCTTAACGCGAGTGG	GCATTTGCCCGGATTTGAT	JRC				BOSC				2							
VT001980	E	GTGAATGCTAGCGGGCGAGTGT	CTACGAGCGGATTCACCGATT	JRC				BOSC				1							
VT001981	E	TCTGAACCTATGAGTAGTACGCTCCCAA	ACACGACCCAATGGATTTCGCC	unavailable								1							
VT001982	E	GCAATGTTTCTGCATTTAACAGGTTCCG	AACTGCTTTTCAAGTCCGCCAGCTCC	JRC								7							
VT001985	E	TTTTTCTAGCGAATTTCCCGCCTC	TGGATTGGTAAATGAACAGCCAGAAACA	unavailable								2							
VT001987	E	GCATGTCATCAACTCTGTTGTGTA	TGAGATTGGCTGAAAGAGGATTTGG	unavailable								3							
VT002012	E	TTGCGTCTGTCTGTATGGACTCTG	CACCGTTCAATTGGGTAGGATACAA	JRC				BOSC				2						2	
VT002014	E	TGCTTATGTGCAAAATGATTTGGTGGCT	TTTAGCTTTTGTGTTGCGCTTATTTG	JRC	JRC			BOSC				5			3			2	
VT002015	E	GCATTCATTACCAACACACAGAGCA	CAGTTTACTGCGGACAGCAGCC	JRC				BOSC	JRC			3	2		3		2		2
VT002016	E	GAGGAAAGCAATCTATTGGACGGTCA	ACAGAGTTTCAGTCCAACGCAGCAA	unavailable								3							
VT002017	E	GAGCGAACTGGTCAACGCTGGG	CGCCTTAAATTCGTGCTGTTTACGTTT	unavailable								3							
VT002018	E	TCCTTCTACGATACATCAACGGCAACA	TTGGGAAATAGGGAGAGAGCGGG	unavailable								5							
VT002019	E	TTCCCGCTCTCTCTCCCTAATTTCC	ACAGCTATCAAGTGTCTCCCTCGT	JRC	JRC			unavailable				3	2		2		2		2
VT002021	E	GCCAAAAACAACCTTTCCCAACA	TCAGGAAAAATGTCTGCTCAGCC	JRC				BOSC				3			2		2		2
VT002022	E	GACTCCGCTCGAGTTTCTCCCTTT	AAGCGAGCACGAGAACGACAG	unavailable								6							
VT002024	E	AACGGCCAAAGAGAAGTCATGCC	CGCGCGCTGCATTAATAAAAACTACT	unavailable				JRC				6			4				
VT002026	E	AACTCCAATGGCTCTCTTCGGTGG	CAATACTTTCCGTGAAGTGGTACGTGCAT	VDR	JRC							2			2				2
VT002027	E	GTTCGGGCTGAGATTTCTTTTCGGG	GTTCGCTGATTGTTGGGCTGTTG	unavailable								3							
VT002028	E	TGTCCCATCGGAGGTAAATATACGGTTG	TGCCAGATCACAGCCACTACGGAAA	unavailable								3							
VT002029	E	CACAACGCCCAACCCACG	TGTTTGAGCAGCATGTTTCTATATCCTCG	unavailable								3							
VT002031	E	GACAGAACTCGGGCTTGAAATAGTAGAATT	aggaaccaggaaccaggacTCGGCT	JRC				BOSC				3							
VT002032	E	GCAGAAAGTAGCGTGAACATTCCCC	GGCCAGAGGAAACCGTGAACAAAC	unavailable								2							
VT002033	E	AAACTGATCGCGGCAAGTGGAG	TTGATTGCAAGGGGCAAAAGCCTAT	JRC				BOSC				2							
VT002034	E	TGTGGCCCAAAACCGCATTTTATTT	TGCCAGACAAAGAGCCCATCAACA	unavailable	JRC							2			2				2
VT002035	E	GGGCAGTTTGAGGGATTTCCTTT	TGTGATGTTGATTTTCGTTTTGCTC	unavailable								2							
VT002036	L	TGCTGCTAAACTGATTGATTATTTTGTTCAC	CGAATTACATGCGGCCGCAAAA	unavailable								3							

[illegible]

VT004721	E	CGACGAGTCAGGTTCTACTGCCGCT	GACGAACACAAATGTATACCCAGGGATG	JRC		unavailable		unavailable	BDSC		BDSC			2		2	2		2
VT004722	E	GGCAACAAGTCGTGTGGATGAGTTG	ATTGACGGGCAGACAGCGAGAGATT	unavailable								4							
VT004726	E	TTTCATGTGAATCATCTGCTTTGTITTTCTT	TTGGGTGAGACTTGTGCATTTCTCCA	VDRC	JRC	unavailable	JRC		BDSC	JRC		3	3	2	2		4	1	
VT004767	E	AAAGAGCCAATAAACGATGCAGCCCC	AGTCCTTACACACTCCCCGGAGCAA				JRC								2				
VT004789	E	CAATCGTCGAATCACAAATAGTTGGACA	AGGCCGTCTCCGCTGACATGAAGTA				JRC								2				
VT004825	E	GTCAAATGCCCCCCGAGATGCAAAAC	GCAAGACGAGGTCTTAAGGTAGTCGGA				JRC												
VT004847	E	GAGATCAGCACGGCGGAATTGAC	GGTGGATGAGTTTGTACTGTGTGCGG	unavailable								2							
VT004849	L	CGCGTCCGTTCGCATCGACT	TGCGGAGTGTGAAAGGTATTATCGG	VDRC								9							
VT004850	E	TGTTGACCGAGTGTAGGATAATGTGTCGT	CATCGTTTCATCATCCCAACCCCATC	unavailable								1							
VT004851	E	TTTTACACCGATCATTGTCTCCG	ACTGGTAAGTGCAAAACAAAGAAGCCC	unavailable								2							
VT004852	E	GGCAGAGCCAGGAGTATTTACGGGA	CAGAATACGCAGAACGAAGACGATGGA	unavailable				unavailable				2							
VT004887	E	CATGAGCTTAATCAACGAAAAAGGTGTAAA	TCCGAAACAAAAACAAAGTGCTACAAAA				JRC												
VT004896	E	CGCATTAAAGTTCATGCGAATAGGA	AATTGAGATAAAAGCCCGGCACACA				JRC							2					
VT004901	E	AAATAACTTGAATTTGTCTTCTCATTTTCTGCG	CGATTTCAGTTCGGTCAACTCAGTCAGC	unavailable								3							
VT004904	E	TGATGAAGCAGGGAAAGCGGAAAG	GGCAGAGGAATAACAATTAGATAGACGGGGA	unavailable								5							
VT004905	E	GTGAGCGAAGGGAAAAACGAGAAC	GCTTCGTTTTGCTCGCATGTTGT	unavailable								2							
VT004920	E	CCCTACATTGCTTCGATTAGCGTTG	TATCAATCAACCGCCACCGAGTTTC				JRC												
VT004948	L	CGGATGCAGACCATGATGTAACCTCG	ACTGGCTGTCCGCTTGGGTATG	unavailable								6							
VT004950	L	GCCTGAACATGTCGCAAGTCGAAGA	AGGAATCAGAGGGTTGGAATCACGG	VDRC								4							
VT004953	E	GAGGATCCGTCATCCATTATCC	AGTTTCCCGCATGTACCGCCA	unavailable								2							
VT004954	E	TTCCACAGCAATTAAACAGAAATCT	CGCAACTTCAGCTTAACCTGGCTCTATC	JRC								2							
VT004955	R	ATGTATGACGAACGATGCGGCTGTC	CGAAAAATCGTGGCTTACGTGGTCT	unavailable								4							
VT004956	E	GCTAGACACGTAACGCCAGGATT	GCATGCAACATGAAGCCGTTTTTC	unavailable								3							
VT004958	E	CACACAGGCGAACATCATCCAAG	GTGATGTGGGAACAATGCTGCAAA	JRC	unavailable	JRC	unavailable	BDSC		BDSC				2	2	2	2	2	
VT004962	E	TCGGGCATAGTGGCTATGATAGGGC	GGAAGCATCGGCTGACGGGA	unavailable								3							
VT004963	E	TCCTTTTCTGCTGCTGCTCTTTTT	AAAGCCATACAAGCCATACTAGCGCA				JRC								5				
VT004965	E	CGAAGTGGATCGAGGAAGCAGGAAG	TCGCCAAACAAACCAAGGCCAAAA				JRC								2				
VT004966	E	TGCCCTAACTGTGTTCTATTGCTGG	CTCTGGCATCTAAACCGGAACCTC	unavailable								3							
VT004967	E	GTAGCGCAAGTTTTTCTTGGCTGCG	TAGCCTGCCAACCAATCCAATGT	unavailable								2							
VT004968	E	TGCAATCCTTCACCACTTTCACCT	TCCACGCTGCTTTTAACGATAGTCAGTC	JRC		unavailable			BDSC	JRC		3		2		2	2		
VT004971	E	TGTTCTCAAACTCTACTGGGGCA	ACACGCATTTAGTCCGGCTCAAAAC	JRC			JRC				JRC	4		3					
VT004972	E	ACTATCGCAGCAGCAGTCAGCTA	TTGTCTGAAACTTTTCGTTCCAATGA	JRC					BDSC		BDSC	5				2			
VT004974	E	GGTTACGGGTACATCGAGTCGGCG	TGCTGGTCAATCGAGGCGTTTAT	VDRC					BDSC		BDSC	2				2		2	
VT004975	E	CAAGCAATTAAAGTTAGAAATGCTGTT	CCAAGTAGAAGCATGAATGTGCTCGG	unavailable								11							
VT004977	E	GTGCGACTCCCGTGATGAATGAATG	TGCTGGGTACATGCTATAAAGCGTTCTC	JRC	unavailable				BDSC	JRC		4		2		4	2		
VT004979	E	GGAGGCTCTGCCACAAATGTCTT	gattcaGCTCCTGTCGGATGTCAT	VDRC					BDSC		BDSC	2						2	
VT004980	E	GTTTGGCGAAGCTGGCGATGTTT	ccatccacttccacttccacttct	VDRC					BDSC		BDSC	3				2		2	
VT004983	E	GCATCCACGTGCTCGCAGATTTT	TGCGTGTGTGTTAATTTGCGTTGT	JRC					BDSC		BDSC	3				2			
VT004984	E	AGAAACAAAAGAACCTGCACGC	CCGTTGAATGCGCACTCGGGAAAAA	JRC					BDSC		BDSC	3					2		
VT004985	E	AAAAATCGGCCATAAGACCCAGTGA	CGCAGTAAGATCGAAACAGATGCC	JRC					BDSC		BDSC	4				2		2	
VT004987	E	CCACGTACCCACATCCGATCAAA	cacacacactgacacacacactcaqTA				JRC								2				
VT004988	E	GCGGGGAAAAGCGGTGAAACTTACT	TCTTCCAAAAGCAACCATATCTTAATGTCG	JRC		unavailable	JRC	unavailable	BDSC	JRC		1		2		2	2		
VT004990	E	TGCACACACACACAACTCTCACC	TTACAACACGCTGTACATTTGCGATGAACA	unavailable								3							
VT004991	E	GGTTGCAATTGCGGTAGTTGTGCT	ATTCCCTGAACGCTCCCTCAGT	unavailable								4							
VT004992	E	TCGAAAAATAATAACCTAAGGCTGGCA	CAGGGGAAAGCAGGGAAGGACAAAC	JRC		unavailable	JRC		BDSC	JRC		4		2	2		2		
VT004993	E	CTCCCATCCATTACACACCGGAA	TGTTGTAGCAGTTGTGTTTCCGCC	unavailable								2							
VT004994	E	TCAGGTGGAATGTGTAGTGTGTGC	TGATTAGTCATTGAATGCGTTTATAGCCGTG	unavailable								4							
VT004995	E	GAGTCGGTGAGTCGGTGAGGATTT	CAAGTGTGGCAAGCTCTCGATTGG	unavailable								2							
VT004996	E	CAATTATTAAGCTCTCATTTTGCATTTTCCA	TCCAATTTTTCGCTCAGGGAGTTTTTC	unavailable								3							
VT004998	E	ATTGAGACTCTGACAGGGGGCGAAG	CGCTACATGCTACATGCTGCTATGG	JRC							BDSC	3						2	
VT004999	E	TCAGCGTTCAAGTAAAGTCCCACG	GCTCGTTAGTCAGCGGGGTTTTG	unavailable								2							
VT005000	E	GCATTTATTTCGGAGATGAGCGAGG	TGTATGCAAAAACAGTGGCTAGGCG	JRC					BDSC			3							
VT005001	E	CAGCGGTGCATTTTGGGGCTT	TGGTTCGGTTAGGGCTTCCGGTTT	JRC					BDSC		BDSC	3						2	
VT005002	E	GGATTTGTGCCAGACTCACCCACC	AACTGGGAAAAACAAAGCCCTCACCC	JRC					BDSC		BDSC	3							
VT005003	E	TGGAAGAAGTGTCAATAGAAATCGAG	TCAAAGGCGCTTCCACAAATAAGAAA	JRC					BDSC		BDSC	3						2	
VT005004	E	GTTGGTGTGGTGAGCTGCCTCTTG	TCCCAGATGATCGGGTCTCTAAAGC	unavailable								6							
VT005005	E	GCACCACTTTATACCCCTAGGGCAC	TGCACTTTTGCAATTCCTTGTGCT	JRC	JRC		JRC		BDSC		BDSC	7	3	2		2	2	2	
VT005006	E	CACACACACACATATATACAAGCGCTCA	CCCCATCATTGTTGTGATGATTTTCGC	JRC			JRC		BDSC		BDSC	5		2		2		2	
VT005008	E	TGAATCAATTCTAAACGTATCAAGTTTTCC	AAACAAACTTTTCTAGGAAATCACTCG	VDRC			JRC		BDSC	JRC		5		2		2	2		
VT005009	E	CCTCCTTAGTAGCATCGGAGACTCT	GTGTGTGTGTGGTGAAGCGGAAAC	unavailable								3							
VT005010	E	TTTTTTTACGTGCTCAATTCCCA	TCTGTGTTGGTGGTGGTGTCTGCT	JRC	JRC		JRC		BDSC		BDSC	3	3	2		2			
VT005011	E	GGCAAAACGAGGACGAGCAATAAAA	CGTCGCTGTGTGTGTGAGCCC	unavailable			JRC					2		2					
VT005013	B	TAACGGTACACACGCGCAAGGCAG	TGATTATTGGGCTCGTGGCTTTTTTC	unavailable								4							
VT005013	BL	TAACGGTACACACGCGCAAGGCAG	TGATTATTGGGCTCGTGGCTTTTTTC	unavailable								4							
VT005014	E	TGTTAAGCGACTGAAAAACGCACGA	AAACTCTCTATTGCCCTTTGCTCA	unavailable								2							
VT005023	E	TGACCAAACGATTATGCGAAGCCA	TCAAAGATTATTAACAGCACATTTTGTA				JRC							2					
VT005043	E	AAGAAAAGGTGCGACGCTCACGAGA	CGCACACTGAGGCGCACTACC	unavailable								3							
VT005046	E	GGTGCTGTTATAGACGCGACTGGAGG	TTTGGGATCGGGAATGGGTATTGGT				JRC							3					
VT005057	E	TACCCAGCTTAAGGGACCCGCTCTG	TAGTTGCGAGTCAGCGAGCTTTGTG	unavailable								2							
VT005058	E	GCTCGGCACAAGCGTTAAACAAGG	AGCTACCTAAACCAACTTCAAGTTACAGCACTG	unavailable								3							
VT005060	E	GACAAGCGTCAATTAAGAGGGGAG	TCCCGAACATATGATAAAGATAATAAATTA	JRC					BDSC		BDSC	2						2	
VT005065	E	TGCAATTTCAATGATTCTTCCGGTTC	TGCAAAAGTTCTCGAGGGCACATA			unavailable								2					
VT005078	E	GTCTTGCTCCTTACGGGGAACTAAA	ATGGCGACTGGCTCTCTTTTGAGG				JRC				JRC								
VT005100	E	TGCGTGTAGTTGCTCAAACTATCCA	AAAGGCGGCGACACTTGACAGATAAG	unavailable	JRC					JRC		3	1	4					
VT005102	E	TTGATGATGATTACGGATTTTGGCC	TGCTGGATTGATTAGCTGAGATTGTATGC	unavailable						JRC		2		3					
VT005105	E	TGTGCGAGGGAGCAAGAAGATGAA	CGGCGTTTTAATATCAGCTGCGTA	JRC	JRC							4	2						
VT005106	E	AAAAAGCCAGCCTCATCTCGCCC	TGCTGCTCATCTACAACGTTCTCT	VDRC		unavailable	JRC		BDSC	JRC		3		2	2		2	2	
VT005107	E	GGTCACACTCGCCGATCCAC	GAAAAGGTCCACTTTGATTTTGCACA	JRC					BDSC		BDSC	3						2	

V7005108	E	CAAGGATATTAGCATTTACTTTGTGCCCC	AAAAATATTGGACCGCGCTAAGGA	JRC					BDS		BDS	4							2
V7005109	E	TGCTGTGGACAACCTATGGACGTGG	GCCATTGGCTATGGTATAGTGGGG	unavailable		JRC						4							
V7005110	E	TGCGAATAGCTCTGTGCTGTATGATATGG	TGTGCGAAAGTCGATGTCAACTCGT	VDR		JRC		BDS		JRC	3								3
V7005111	L	AAAAAACAGCAAGCGGCCACAG	GCCCTCGACCTTCCCCAAAATCGT	unavailable							2								6
V7005153	E	AGCACGGCCAGCATACTAGCAC	GTCGGGCTGTGTCTTCTGTTTTT			JRC													2
V7005159	E	TGCTCTCGCAGCTGATTCTTTCAC	GACATCTTGCTATCGGCGCTTCTC			JRC													
V7005174	E	CATCGAAACATCTTGCAATCCAC	TGCTTATCGAATTGCAGCGCATCTG			JRC													2
V7005175	E	GTAAAGAGCACAGCAGCATGAGGA	CCTGTTTTGGGACCAGGGGTTTGAG			JRC													2
V7005214	E	TGAATGAATCAGAAGTTTGCCTTCATCGT	ACTTGGCCACCTGCATCTTCTTCTT			JRC													4
V7005283	E	CAAAAGAAAGCGAAAAATTCACCACACA	CAGAGCCTTAAGTTTATCCACAGCGCA			JRC													2
V7005287	E	TGTGCGGTGTACGTCTATCGAAGGGA	CATCGTCACTGGTCGCCATTTAG	unavailable								2							
V7005288	E	ATTTTGTGGCATATCACCGTAGCCA	TGTGCATTAGGAACAAGTTTCATGGCA	unavailable								2							
V7005295	E	GATTGCCGACATTGTCGGGTG	GTGATTGACATCTCTCCGATTTCATGTT	unavailable								5							
V7005297	BL	CTAAACGTAGACACATATTCATACTACATAA	TTCCAGATGATCCAGTCATCTGGCA	unavailable								2							
V7005298	E	AGTCGACGAAATAACTGCAAGCCCC	CCGTGGAAGAATGGCTCTACAA									4							
V7005300	E	GCGGAAGCAAGTAAAGTTTTTGGG	TGCGATGGCGTTCATATACTCATTC	JRC	unavailable			BDS	JRC			4							
V7005301	E	AGATGGCCGACCCCTCTGCACTAT	TTTTCTGTGCAAAGCCTTAACGTG	unavailable								2							
V7005326	E	TTAGCACCACCTCGATGCCAGAGC	TGCCACAAGTTTGCCAGCTATAAT	unavailable								3							
V7005328	E	CGAGAAACGATGTTGTTTCATACGCA	TCTTACGGATTCAATGCTTATACTGTTCCGAGA	unavailable								3							
V7005330	E	TCACAGTTTTCAAGCCACCCGTTGT	CAATATGTGCGTGTCCGGCGAAG	unavailable								2							
V7005331	BL	AGCCATCCAACGCTGCTGTGC	AAACGATCGCATGGCCTCTCAA	unavailable								3							
V7005339	E	TGGA AAAATATATTATACAAATACGCTGCCTC	CTCCGCTCCAGCCATTACGTT			JRC													
V7005340	E	GACCAAGGCAAGTACAGGACAC	GCGAAGCGCAACCAAGTTGTTAT			JRC													
V7005353	E	GTTTCGGTGACCTGGAGCAGCTTGG	GGGTTGCTTTATAGTCTTGTGCGCATGG			JRC													
V7005370	E	ACCAATCCGCGCAGTGTTAGTAGG	CGGCGCCACTTCTTCTCATTTTT			JRC													
V7005404	E	TCAGGACCCGAGTGAGCACACAATC	TCGTGTAATAATGCTTTTGGACAAAGGACCC	JRC				BDS		BDS	2								2
V7005446	E	AAGCATCCACAGAGAGCCCCAAC	ATGGAACACAGAGGCGGAAAGAGA			JRC													
V7005447	E	GGCAGTATGAGGGATTGAGGTGGT	GCTTGCGATTGCCGAAGTAAATCAA			JRC													
V7005521	E	GGCCAAAATGTCCATTAAACCTTTCCA	TCAAATGCAATTAAATATTTGTCGTTTGTTC	VDR								4							
V7005522	E	TCCTCTTGAATTTGGATATGTCAACCTCT	CTAAGCGACCTTGATCCACGGC	unavailable								3							
V7005523	E	TGGATAGGCCGAGGAGCGAG	TACAAGCACAAAGTTTGGGATGGG	unavailable		JRC						2							
V7005524	E	TGGAACATTTGCAAAAGAGCCTGAACC	GTGATGAGCGTCTCCCATGTTTTT	JRC								4							
V7005525	E	TGCGTCAAAAAGACTCTGCTCTCCA	CCCCCGCAAGGACTACATGAACTAA	VDR	unavailable	unavailable		BDS		BDS	5								2
V7005526	E	ATTGCTCGGATTGCCAGTTTCGGT	AATTGAAATTGCTCAGGAAGAAAGGAAGTTT	VDR	JRC	unavailable	JRC		BDS	JRC	3		3	2					2
V7005528	E	GGGACATTCACAGGGCAAGGATG	TGCTCGATTGGACCTGCAACTAA	VDR							3								
V7005529	E	CCGGTCTATAAACAAACACACAGGA	CGAATGGTCAAGCAGCAGTAAAAATAGTGG	JRC	JRC		JRC				3		3						2
V7005531	E	TTGACAAAGGGCACGAAAGATTG	TTTTCTGTCTGCAAGTCTGTTGATTTTT	unavailable		JRC					3								
V7005533	E	TGTGCCAATCATCTTTCCATAGTTTTGT	GCCTTAATCGCTCTTATTTACGCA	unavailable							3								
V7005534	E	GAATCGGCCAGCTTTAGTAGCA	TGTAATCCATGCGAGGCTATCCACAA	JRC	JRC	unavailable	BDS	JRC			2		2						2
V7005535	E	ATTGGGCGCGTCTGGTTAAGTGG	CATTTATAGCAAAATCGAAAAAAGACCAA	unavailable	JRC		JRC				3		2						
V7005536	E	TTACTCGGGTGTGCGAAGTGGGAGT	GTTGTCAGGGTGTGCGGTTGTC	JRC				BDS	JRC		2								
V7005537	E	TGCTATTTTGTGCTGTCTGTGCC	TCCACTCAGCTATTAGATTTAAACCAACA	JRC				BDS			4								
V7005538	E	GCCCAAGTACACAATAGCCACTGTCT	GAATACATTAGCAATTTGTTGTGTTGTGT	unavailable							7								
V7005539	E	TGAACCGAAAAAGGGGAAATCATAAA	CTACCTTCAAGCGCAACGACTCAA	VDR	unavailable	JRC		BDS	JRC		3								
V7005576	E	TCCTTGAAGTGAATGCTCACCATCG	ATTGCGGCTCAGCCACAGTAAA	JRC		JRC			JRC										
V7005615	E	CGTGCAATGAAGAAACAGAAGACCAA	GCGACTGATCATTCCGGGCTCAT	JRC		JRC			JRC										
V7005657	E	GAGCGAGCGAGAGTCAAGAGTCT	TGCCGCTAGCAGCTGTATATCCTAGC																
V7005703	L	CCGCTGACAGCCGAGCAGAAG	CAACCGGGATGTAAACAACGTAAAAACCA	unavailable								2							
V7005704	E	GCCACATTCAACCACTTAACGCC	aacgcAAATACCAACGCCACAA	unavailable		JRC					9								
V7005707	E	AAACCTCCCTCTCTGAATGTGCT	GTTTGCCACCCACCAAGATCCCT	unavailable							2								
V7005711	E	CGACCATCTGTGCGAGGACAA	GGTTAAATGGGGAGAGCGGAGAGAA	JRC		JRC		BDS			9								
V7005712	E	TAATTGTCTGCGAGCGCAAAACCT	TCGGCTGTGTTCTTACGTTTGT	unavailable							2								2
V7005713	L	CAGATGAAGCTTTTTCATGGCTCACA	GAATGTTTTGAATTAATCCGCTCATGCTTT	unavailable							3								
V7005802	E	GCAATTCAGTGCGATGGGATGGTT	GCTCGAGGACAAAGGATTACACAG	unavailable							2								
V7005828	E	GTCCACACAAAGCAACACCACA	TTGGGGATGCAAGGGGTT			JRC													
V7005841	E	CGTCTGCAACAGGCGGACA	GTTTATCTCATCTCGGGCGACAA	unavailable								2							
V7005852	E	CGTGGCAACAGCCAATGTTCAAATA	CAAGTGTCTTGTGGACTCTGAAATG			JRC													
V7005879	E	TGAAATGGTGTCTCTCGGCACTT	GAGAGGTACAGGGGAGGGTCTACAGG	unavailable								2							
V7005901	E	AGGGCCAAATTAGGAGCACCA	CACGAGAAAAAGCGAAAAACAGCG	unavailable								3							
V7005903	E	CGATGATGATCTGTGACCAATTTCC	AGCGGTTTACTATGCCAACACCC	unavailable								4							
V7005948	E	CATCACTAATATTGCTGCCAACGG	TGCGTCACTCCCTGTTGGATTG	JRC					JRC			6							
V7005978	E	TACGGGATCTCCAGGAGGAGCTTT	TCGCAAGATTATTATGTCTTATAGCGCTGGG	unavailable								2							
V7006031	E	tgttGAGCAGCCGCAATTATGTGAGA	AACAAGCGTTTACGCGCAAGGAAC	unavailable								2							
V7006033	E	CTCTCTTGTCTCGAATTAGGGA	TGTTGACTCAAGAGTGAATTGCGA	unavailable		JRC		BDS			2								
V7006035	E	TGCGAAAGTCAACCTGTAATTTGATGT	CCTGCTCAAGCGCAAAACGCT	JRC		JRC	unavailable				2								
V7006036	E	CGGGCAATCGAATGGAAAAAGA	AAATAAAGCAGCCGGTCAACTGC	unavailable					JRC		2								
V7006050	E	AAGCACACAAGGCAGCCCCAAG	TCTCCGTAGGTCCAAACATTCGCA	unavailable		JRC					2								
V7006140	E	TGCGGCGCAGAAAAGATATTGATGTTA	AAACCTTCAGCTCTCGGACCAAT			JRC													
V7006163	E	CGTGGACAGCGTGGTGATAAAGAAG	TCGACTGGAGCGGGGCTAATAAGGT	unavailable							5								
V7006164	E	CTTTGAGGCATTGTGTGAGCGG	AGGTCAACTCGTTTTCGGCCATT	unavailable							2								
V7006165	E	CCATCTCCGTAATCCGTCTAGTTCCA	GA AACCGCTCAGACACTCGCTCT	unavailable							4								
V7006166	E	GAGCCAGTCTCTGGTAGCGATTCA	ACACCGCATCTCGTCTCGTTCT	unavailable							6								
V7006168	E	ATTCGGTGCCATAACGCTGCAAGTC	CAGAGGGCGGAAGTTTCCACAA	unavailable							5								
V7006169	E	TTCCCATGTCCACAGCCACAGAAG	CACGGTCTCTGCAGTCAATTTTCCA	unavailable							3								
V7006170	E	CCTTCAGTCGAATTGGTGAAACT	CGCGATTGTTCGGTAAAGACATG	unavailable							2								
V7006172	E	GCGAGTGAACGGTCCCACTGATTGA	ATCCTCGTCGGTGGCGGAATTT	unavailable							4								
V7006196	E	CGGAGTTTCGAGTGTGCGTTGTG	TGTGCTTTGGCTGTTATTGTGA	unavailable															
V7006197	E	CTTCTCCGTTGTCTTGTGGCT	TTGCGATACACTTGGGGCTTTGTG	unavailable							3								

VT006198	E	TCGAGGCAACATAAAACATGGCTC	GGTCTTGAGCCTCAAAGCTCTGGTCAAA	unavailable								6							
VT006199	E	TTTCAATTTTCAGTAAAAATCGTTACGGTGC	CACAACAATGAGCTTATGAAGATGCCCTGG	JRC		unavailable	JRC		BDSC	JRC		5							
VT006200	E	GGTCAAGCGTCTCTTAAAGCCCA	ccaccacaataacacacacacacacA	unavailable								2		1	2		2	2	
VT006201	E	TGGCAGACGATCATACGTTTCAATTTTTCT	GCTGCCGTCCGCTTCTCTCT	unavailable								2							
VT006202	E	TGGGATACGCTCCAGCTTTTATCATCT	CAAGAGCACCGATATCCGAAATCAAC	VDR	JRC	unavailable	JRC	unavailable		JRC	BDSC	6	2	2	2	2		2	2
VT006203	E	TTCCACCTTCATAGCTTACTGCCAGC	TCCTCTCGGCTTCTCACATTTCTGT	JRC								5							
VT006204	E	CGTCTTCAAAAGCGGCAGACAGCTA	TGATTATGATGGCGTAAACACAAACCA	VDR					BDSC		BDSC	2						2	
VT006205	E	TAGCAACAGCGGCAACAGGAAAAG	CGAAGCGAAGGTGGTGAGGATGT	JRC		unavailable	JRC		BDSC	JRC		8		2	2		2	2	
VT006247	E	ATCGTGACTTTGGCTTGTGGCGGT	CCACGTTGTGTCCATGTGTTGTGTTG	JRC			JRC								2				
VT006284	E	TGAGCATTTGTGCAGTATGTCCAGCAT	CTCTTGCCTCCAAGCGTAGCAAA	JRC											2				
VT006382	E	TGGGTGCATCTTGTGCATACCCCTTC	TGATTGCACAAACAGTTTCCAATTCC	JRC					BDSC		BDSC	2							
VT006383	E	CGCAGAGGACCGCTCTTTGAACAC	TGCCACGCCCACTACAAAGCAACTA	unavailable								2						2	
VT006384	E	CAAAATTTACTGGCATTTATACCAACCGCA	TGCGACAAATCCCCAACAAACACA				JRC								2				
VT006385	E	GCAGCGATTCTGTGCTACCGCTTT	GATGGCTCGTACCTCGACCTTGT	unavailable								3							
VT006387	E	TCCAATCAGCATTAAGCTCTACTCTCAACA	TCCAATTCAAAATCTTATCCATCGG	unavailable								5							
VT006388	E	CGGAAGCACTTAACCTCCCATCCA	GTGCGAGGCATGCAACAAATGACT	JRC															
VT006390	E	CCGCCAGCATGAAAACAAACAAAA	ACGTTTGCTATTAAAGCGGATCGCA	unavailable								2							
VT006391	E	TGGAACGCTAATTATGCCAGGAAA	TTGAAAAGTTGTAAGAAAATCAGCAAGCAA	JRC	JRC		JRC		BDSC		BDSC	3	4		2		2		2
VT006392	E	TGAAAATTTTGTCTGATCACCGTTTTGT	GTACTTTGATTTGGGCATCTGGCAA	JRC		unavailable			BDSC	JRC		5		2			2		
VT006393	E	GCCTGTCCCATCCCATCTTCT	GCCAGTCGAACCTTTTACTCTGTGT	JRC					BDSC		BDSC	2						2	
VT006394	E	AAGCGAAGAGGGCAAGTCGAATGAA	CGTGCTAGGCAAAATATACACCCCGA	JRC					BDSC	JRC		3					2	9	
VT006395	E	CAGTGTGTATAAATGATAGTCTTTGTAGTGG	CCGAGGCAAGTGAAGAAATGAGGCAAA	JRC					BDSC		BDSC	3						2	
VT006398	E	CCATTGGGATTACTGACCTTGAACCTGAGA	AGCCGGTGTGCAGCGGATAC	VDR		unavailable		unavailable	BDSC		BDSC	2		2		2		2	
VT006399	E	CCCTCTTTTGATTTCCGCCAGGATT	GCTCCGTTTTGGAAATTTTCCGTCT	unavailable								5							
VT006402	E	TGATTGTTTTGTGTTATTTCCGGG	TGCGATACACTCCGATTTCCACTACA	unavailable								2							
VT006403	E	TCATCTAATTTCCATACACAATTTCTTACAATGCT	CGTGAAGTTGCGCAGACGAGAGG	JRC		unavailable	JRC		BDSC	JRC		4		2	2		2	3	
VT006404	E	GAGCAACATCGCTCACAATCAGAACA	GTGCTCTGCTCACTCTTCGATTG	JRC		unavailable		unavailable	BDSC		BDSC	4		2		2			2
VT006406	E	CCCCCACTCCATCAACACTATGAA	AGAAAGAGGGGTTATGGACGAAAAGG	JRC					BDSC		BDSC	2							
VT006407	E	AGCCACCGCATATGAGGAAGTGAA	GTGGGCGAAGTCATCAACTGTC	unavailable								2							
VT006409	E	AAACCAAGAAATCTCCCTCTGCC	AAACAACAAACGGCTGACCTTGACC				JRC								2				
VT006410	E	HGGGCAAGCAATTTGGAGAGATAAGA	gcagcagcagcaacaacaacaA	VDR					BDSC		BDSC	3			2		1		2
VT006412	E	CACAACACGAGCGAAGCAGCAAGA	GCACTTTTAGTTCTCATTTTCTTCCACCCA	VDR	JRC	unavailable	JRC		BDSC		BDSC	2	2	2	3		2		2
VT006413	E	CTTGTTCTTGAGCCAGCGAGTGT	GCTTTGAATGCCCTTGAACCAATCT	JRC	JRC	unavailable	JRC	unavailable	BDSC		BDSC			2		2	2		
VT006414	E	GCAGATAGATCCCTGTCAAGAAACCCC	GCATTTTGAATTTGGGACAAAACGCA	JRC		unavailable			BDSC	JRC		3	3	3			2	2	
VT006415	L	TGCGTTTTTGTCCCACTCAAAATG	CTCCCATCAAGTCCAATACCACAA	JRC					BDSC			6							
VT006416	E	TGCTCAAGCACCACTGAGCGAAAA	TGAAAGGGAGCTCCACAATCAGGAA	unavailable			JRC					3							
VT006417	E	ATCCAATTCCTGATTCCCGACAAG	TGTTACGCAATGAAGAAAGAACAAATGCAA	unavailable								2							
VT006418	E	GGGAAGAACTACTGGGGATTGGA	CCAAAATGCGATGGCTACAGCAAAA	JRC			JRC		BDSC			4			3		2		
VT006420	E	ACGTGCCCGCTCCGGTTAGTT	ATGATGAATGACCGTGTCTCCCC	unavailable								3							
VT006423	E	CCCTGCCGCTCCTGCTGATATTTT	TTTTCGAAGTCGGGGCAITGCTTT	unavailable								3							
VT006424	E	TTGGATGATGTGATTGCTTGGTGG	TGTTGCGAATTTTCCCACTCGATTT	unavailable								2							
VT006425	E	TCAATTTGGGATTTTCTCTCATATAAGCCATT	TGTTGCTGCATAAGCGGATGTTGTTT	unavailable								3							
VT006426	E	TCAAATTTATGCATTTCAAATGGCGCT	GCACAGCACCAAAATTTCAACCAAC	JRC					BDSC		BDSC	6							
VT006429	E	GCATCATCTGAAGTGGTGGCTTG	TGGCGCTGCTGCACTACTTTTATGG	unavailable								2							
VT006430	E	ATGCGAAATGCAAGCAGCTCAA	GAGAGCAACTTCTCCGGCGCTGATG	unavailable								4							
VT006431	E	AATGAAAAATAGTAAAAATTTGGGAAGCATGT	GATTTGCGTTTGGCGTTTGTGT	unavailable								2							
VT006432	E	GATCAACGCCCTGGAATTTGGGA	ACTTCACACTTGAGGCAGCGCAT	unavailable								3							
VT006433	E	ATTGGCCTTAAGTGGCACTTGTCT	CCGGCTCCCAAGTGAACGG	unavailable								2							
VT006435	E	AAACGTGCTGCGAATGAGACGCAAA	TCGGAATGGGAGTAAATGTCTCTAACG	unavailable								3							
VT006436	E	AATGCCGTTTCTGGGTGGCT	TGGCTTAGCTCTGCTCCAGAAAAA	unavailable								8							
VT006437	E	AAGGGCTGCGTACCTGATTTGGC	TGCTTAGTTGATATTACAAGCTCCCCATC	unavailable								3							
VT006438	E	CGATTCAAAGTATCCAGGCTATGA	GGCCAAACAGATTGCTCAGATGTTG	unavailable								2							
VT006439	E	CATTACAGCAAAATGATGCTTGGCC	GCAATCATAAATTCAGTTCTCTCTCCAAA	unavailable								4							
VT006440	E	TGCTTAATCCTTGTGGCTTGTCTTG	AGCCAGGCAAAATCATGAAGCTGGG	unavailable								2							
VT006442	E	TGTTTGAGGGAGGACTAGGGGGAGC	CATGACTTTGGCAATGGATGGATGA	unavailable								3							
VT006443	E	ACAATTTGCCGCTTTTCAACCC	CAAAATGGAGCTTTTGTGAAATGCTT	unavailable								3							
VT006444	E	CGGAAGGTGATTGCTCCCTGCTAAA	GCACGCATATTCGAGTCAGGGTT	unavailable								3							
VT006446	E	GCATATTGCGCTACAAAGACAGCC	GATGCGCTATCGATCGATCTCTT	unavailable								3							
VT006447	E	CACCAAGCGAAAAGGGGAAAAA	ATTTTATGCCGAAAACAAATGGGGG	unavailable								3							
VT006448	E	TCCTCTTGAACAGCTTCATTTTGG	CTCGTTAGGACAGCTTCATTCGCCG	JRC					BDSC		BDSC	3							
VT006449	E	CCTGGAATGACCGAGCAGCA	TTTCTGAGCAGTGCTCTAGGGTATCA	unavailable								2							
VT006450	E	TGCAAGCAATCGCTTCATATTCTCC	GTGACTGCAGCAGATCCCC	unavailable								6							
VT006452	E	TCGTGCGAAGCGCAACATTCAGG	ACGCCCTCTTCTTGTATCGGCTTTT	unavailable								3							
VT006453	E	TGTTACGGGCTTCTGATGGACTATG	GGTTCTATCAGCAGATTGTTTTGGGG	unavailable								1							
VT006454	E	CATAAGCCGCCACCCCGCT	TTAAAAGTCTACAAGGAAACCCCTTTCA	unavailable								3							
VT006455	E	CAGCCCTGGGACTGTGATTAGTC	GGGCTCATGCTAATCTCTCTCTGT	unavailable								2							
VT006456	E	AAAAACCGATTGAATTTATGAACACGAAAA	CACAAAAGAGCGCTGATCCGGAGTTT	unavailable								2							
VT006457	E	TCATCGACTCTTTATTTTGTCTTCAAC	GGGATTGCGTGGTATCATTTTCT	unavailable								2							
VT006459	E	CTGCTACTCCACTCCCTGATGGC	CGTTTCATTTTCCATCTGCATGTCC	unavailable								2							
VT006460	E	GAAACTTTTTCTCCCTAAAGAACTCTGATATGG	TCAAAACGGGGAGTTAACAGCCTTGG	JRC				BDSC		BDSC		4				3			2
VT006461	E	GATTTGATGACCCCGCTCTCT	GCATCTATTACAACCTTTGGAAGCATGT	unavailable								3							
VT006462	E	TTTTCGGACCAATCCCGAAGGAAC	ACATCCAGTGAGCGATGGACAGCA	unavailable								2							
VT006463	E	ATGGGAACATTGCGTTTTTATGCGTG	TGGCTGCGTACTTTTGTTCCTCT	unavailable								2							
VT006464	E	TTATTTAGGCCATGACAGGTTTGTCCA	GCCAAGCGCTGACCAATAACGTA	unavailable								2							
VT006465	E	TTGCTTCTGATTGATGGGAAAAGTTG	CGTTCTGCTTAAAGGATTCCATGCG	unavailable								3							
VT006467	E	GAAACATGAAGGCGGCAATCGTG	TCAGTCTCTCTGTCCAAAGATATGCG	unavailable								2							
VT006468	E	GGTGCTGTACAGAGAAAGACCATGAA	AGAATCCAGTTGGCACCATGACAC	unavailable								2							
VT006469	E	TGCTAAGTGTGCTTTCGTAGGACTGG	TTGTAGTTTCTTTCATGAAATGTGGAGAG	unavailable								3							

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VT007079	E	TGGGTAAGGTTAAATATCCGCTCTGATG	ATGAATCGCGTTGGAGATCTTTGGG	unavailable								3							
VT007080	E	TGGAATCGAAATCGGAATCGGAGAA	CGTCGTCTCAAGGGTTTTGTATGGGA	VDR								4							
VT007081	E	TTACAATTCGAGCAATGAGAACCGC	CCAGGAGATGATGGCTAGATGACGA	JRC		JRC		BDSC	JRC								2		3
VT007083	E	ACCCAAATGAGAACAAACCCGGAAA	ATTGCCCTGGGAGTGGTGG	JRC		unavailable		BDSC				1							
VT007096	E	CTTGGGCTGTCCGTATCACTCCA	TCACACCATCATTTTGGCTTCCAC	unavailable								2							
VT007097	E	TGGGCATCATTAATAAGCCCGGT	TGTTGCATAGCAGACGAAACCGGA	unavailable								2							
VT007165	E	ATCCCTTGGCGTTGGGCTGTGTAT	TGCAATTGCCGAAGGAAAGTTACA	unavailable								4							
VT007166	E	AGCCTTGGGCACTAGACACGGAA	AATTGACCCGATTTTAGCTTTGTAGCTG	JRC	JRC	unavailable		BDSC	JRC	BDSC		3	2	2	2	2	6	2	2
VT007168	E	AGTGCTGTGGCAGACAGTCAACAAA	TGGCGTAACCGAAATCACATAAAA																
VT007169	E	GGGAGCTAAGGGATTCAAGGGGAG	TGATTTGTCTGTCTAACGTATGCCA	unavailable								2							
VT007170	E	GTCTTTGTCTCTGCTTCTCTGG	CAATGTCAACAATCTTTGAGATCGCATT	JRC				BDSC				4							2
VT007171	R	ACCTTTTGGCATTGTCCACGGTA	TCGCAACGTTTTATGCTCTTTCTTTG	JRC				BDSC				4							2
VT007172	E	GCACCATCGCCTTATTCTATT	TAGGGGGCTGTGAGTGCAGAGAGT	unavailable								2							
VT007173	E	TCGCTTTGGCTTGGATTGATTTTC	CGTGGCTGGGGTTGATTTTCA	unavailable								2							
VT007174	E	ATCACTCTGCTCTCCCGCCAC	TCAGTTTTTCCCAACACACTCCC	JRC			JRC	BDSC	JRC			5							
VT007175	E	AAAGTGGCAGGGCCAGAGAAACCC	TCGCACAGTTTGCCTTATTGCTC	unavailable			JRC	BDSC				3							
VT007177	E	TTACTCTCTGCCACTCGCGTTTC	TTGGCTTACTCGAGCCTTGTITTC	unavailable			JRC					2							
VT007178	E	CCAAGGATCGCTCTGTGATCCCAA	ATGACGCTCATAATTTTACCGGCT	JRC	JRC	unavailable		BDSC				4	2	6	2				
VT007179	E	TCAGTCCCGTTTGTGTTGGGTTT	TCAAATCCCTCATCGGCACTGTTGT	unavailable								2							
VT007180	E	GTGCGGAACAACGGCTGTGTCTAT	TTGCACTTTTGTGGCAGTGTGGAG	unavailable			JRC					2							
VT007181	E	AAAAATGGCTAAATGGGCAATGCTTT	CAGTTGTGTGGCTCTGGAATGCT	unavailable								2							
VT007182	E	TTTCCAGCACTCGCCACTCAT	TTGCTCAAAAGGAACAACCCAAC	JRC								2							
VT007183	E	CCTGTATCATGTTATCGTGTCTCTACTATGCT	TGCGAAATGAAAAAGAAAGAAATGTATCTCA	unavailable								4							
VT007184	E	TCTTCAACCAACCAACCAACAAA	GGTGAAGGGAAACAAACCAATTTGAGC				JRC												
VT007185	E	TGTAATCTAGCCTCTATTGGCACCCC	GTGTTGCTATTGCGCATGGTCTCT	unavailable								2							
VT007186	E	GCAAAATGATTCTACGGTCTGCGAGC	TGATAAGGCGACAGTGTGCAACGACCA	unavailable								4							
VT007187	E	ATGGGCGAGGTGGTTATGTTATTG	CGCTTTGTTGCTCTTGGTTTCGGT	unavailable								3							
VT007190	E	CGATTCTTTATGTCTATCCATTGCGAA	TGCGCAAGATGCACCAAGTACAAA	unavailable								4							
VT007193	E	CGAGAGGTTAGGATTAGTGAGGAAGACA	TCGGCCACAACAGCGAGATAAGAG	JRC			JRC	BDSC		JRC		4							
VT007194	E	GGCACTCGCTGTCATCTTTAGG	TGGGTTTGTATCATATCTTTTGGCTGT	JRC		unavailable		BDSC				3							
VT007195	R	CATTGATGCGGTTGTCAGTTTG	ATCGCCGAGGACTGGGTTAGG	JRC								4							
VT007196	E	GAGCTGTTCCAGCGTGGGC	GGCCAGGTGCGAGTCTTTTCCA	unavailable								3							
VT007197	E	GCTATCTTCCCACTGCGGCT	GGCAATATTTGTAACAATGCTTAGCGCA	unavailable			JRC					5							
VT007206	E	ACGAATTAAACCGCAGTGACAGCC	CGCTTGGAGAAGAGAGAGAACGCC				JRC												
VT007239	E	TGCGACAAATAGTTGTGACTAAAGCA	GCAAAATTTGTTTACAAAGTGTGTCGAATT	unavailable								6							
VT007262	E	TGAATGCGTTTAGGCCAAAGAGGAG	GCTTCTCGCACAGTCCGCCATAAT	JRC				BDSC											
VT007263	E	GGCTCGCGGTTAAGAAATGATGAA	AAGGCAGTGGGCGAACAACATAGCA	unavailable								3							
VT007264	E	GAACAAACGCTTACAGCTGACCCAC	TTACGAACGCCTATCACCGACACC				JRC					4							
VT007280	E	ACACAATGTGGGGGCTGATACAAA	CGAAAAACCATAAATCCAGCCCAA	unavailable															
VT007297	E	CGATAGCGACGATGACGAATGGGAA	TTTAATTCCTTTGAACGCAACGCCA	unavailable								2							
VT007310	E	CCTCAAAGTCAGCTTTTTCATATTTATTTGGC	CAATCGCACATCGTAATGAATCGTAAGG				JRC												
VT007335	R	GCAGTTTGAATTAATGGCCATGGTGG	CAATTCGCGCTGTTTCAGCATAA	unavailable				BDSC				3							
VT007337	E	CCAAATGGAGAAAGTACTATGCTGGTTT	CATATTCAGCCATTAAATAGAAACGCGA	JRC								5							
VT007338	E	GGAAATCGCCAATGAGGATAGGCA	TGCGAAATGTGGTGTGCTTATGT	unavailable								2							2
VT007339	E	TTATGTGTTGCGGTTTACGCCACT	CCGAGGCAAGCAATAAAGCACAAA	JRC								4							
VT007340	E	CGACGAACGACGAATCTCACTCAAC	TGTGCTTTTGTGTATCATTTTCCA	unavailable								3							
VT007341	E	GCTGTACACCTAGGCGCACGATT	AATTGTGGTCAATGACTGGCATT	VDR								2							
VT007342	E	AAAAAGCGGATTGAATGCTGAGCC	CCATAGATGTATAGATTTCGAGACCCG	VDR				BDSC				9							
VT007343	E	TGATACCCCGAAAAGATAGTGGGT	GGATTTGCTCCGTGGAAACAATAA	VDR								3							
VT007344	E	GCTGCGATAGCAATGAGTAACCG	GATGAGGAGGAAAGAGTGGGCA	VDR								2							
VT007345	L	GCAATTTGTCGAAGAGCAGGACTCG	GCACAAGTGCAATTGAAAAGTCAGAGCA	unavailable								3							
VT007346	E	TGTGTTCTACATAAAGGCCACACTACA	GCACCTGTTTATACGAACCGACATCGC	unavailable								3							
VT007347	E	AGTTTGGCCCATTCACATTGC	CCAACGGGCGAGTCCATT	unavailable								2							
VT007348	E	ATAGCAACGGTGCTATTGCCGA	CTCTCGGTCTGGTTTTGGGTGTGTG	unavailable								2							
VT007349	E	CATTTGGGCTTCTGGTTGCTGG	GGAAATGGAGAATGGGGAATGGGA	unavailable			JRC					3							
VT007350	E	TTGCTGGCAGTGTGTAAGGCCAC	CGGAATTAACGAAATGAAAAGATTGTCCA	JRC	JRC			BDSC				2	3						
VT007351	E	CTTCTGATGTTGCGCGCCAG	CTCAGTTTCGCCCCACAGTTTGC	JRC								2							2
VT007354	E	TGCTTGTCAAAAGTCAAAAATGTTAAACGA	CCCTCTCATGATCCAGTTTGAGGTGC	JRC								5							
VT007355	E	TTTTCAATTCTCGCCATCTCTATCTGTG	TCCATCTATCTCCCTCTGCCCCCT	unavailable								2							
VT007356	E	AGACCCGCCAGCCACACAAA	TGAAATATGCCCATCAACAAAAGAGG	unavailable								3							
VT007357	E	GGAAATGGCTTAGATGCAAGTACAGCAAAA	CGGCATTACAAATATGGCCGAGA	JRC			JRC	BDSC	JRC			5							
VT007358	E	CCATTGAAACCATTTAATTTTACGCA	CAGTTTGGCGGGCTCATGTC	VDR				BDSC				3							
VT007359	E	TATCACCGGCATAACAGTTGGAGC	TTTGTTTTGCATTCTTACACTCTTTC	JRC			JRC	BDSC				3							2
VT007360	E	GGCGGCGATAAATTAGATACAAATTTCCA	CGATTGGAGAGTGGGGGTGATCGA	unavailable								3							
VT007365	L	CCTTGGCTATTCGCAATGCCCTCA	CGAGACATGGGGCCAACCTGAAAA	unavailable								4							
VT007378	E	GGTTGCAAACTGTATGTGAAAGCCCA	ATGGGTATGGTGGCCCTGCC	unavailable								4							
VT007393	E	TTGATACGTCACGTGGCGGGTT	TGCGGTTAAAAGCAACAGCTCTCAC	JRC				BDSC				3							2
VT007394	E	GCACTGACTTTGGCAGCACTTTGGA	GGAGCAGGGAGCACTTTGGAGGA	JRC			JRC	BDSC	JRC			2							2
VT007395	E	TACCACCAACAGCGATGGCGGAA	ACCTCACCCGCGCAATAGGCCA	JRC				BDSC				3							
VT007396	E	TCGCTTTCAACTTCCCACTACGCT	AATATTTTCTACATCATCCATATTGTGAGTGC	JRC		unavailable		BDSC	JRC			2							
VT007397	E	CACCTGACGCGAGTGAAGAACCCCA	ACCCATTTCAAGGATTCCTTTGCC	JRC				BDSC				2							
VT007398	E	CGCGGGGAGAGACAATGACAAGAAC	TCAAAAACAGCAAGGGTCGGAGGA	unavailable								2							
VT007399	E	AAGTCTGTCTTCTCAATTTACAACCTTATGAGC	GTCCACATGTGGCTGGGAAAGGAA	unavailable								2							
VT007401	E	CAAGCTGGAAGGAGGAGGAGAA	TCAAAACCGACACAGAAAGACCA	unavailable								3							
VT007402	E	CCAGAAAGATCCATCGAAGACAAA	TGGAACAATGGACACACACAAAAA	JRC				BDSC				3							
VT007403	E	CGAGATGGTCTATGAGCTACAAAATCAA	ATTGCGGGAGTGGGCTGAAGGTAAA	unavailable			JRC	BDSC				3							2
VT007405	E	CTTCGCTGAGGGCAGTTACG	GACGAGTTCGACGACGAGGAGCA	JRC		unavailable		BDSC				5							
VT007487	E	TGAACGAGCCCAAAATGTAAAGTCTT	GCAGTCTGGGCTTTAACTTCAGTTTCAT	unavailable								4							

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[illegible]

VT016241	E	TTTGAACCGCAAAAGAATTGGAAGAAAG	GCATTTTGCCATGCATCCCAGTTT	unavailable					BDS		unavailable	1					2			2
VT016242	E	TTAAGTGCAGCTACTAGCAGAGAAGAGCATT	TGCTGTGGCAAATCAAATTC	unavailable								3				2				
VT016243	E	TGCCAGATAAACCTGCTGAGTGTAAAGA	TCAAGATACCGCTCAAGGTGTC	JRC		JRC														
VT016244	E	GTCTGCCGCTGTGTCTGTCTTGTT	CTGGCCTCAGTTTGTGAATTTTCGT	JRC					BDS		BDS	4					2			2
VT016245	B	CAGCAGCGACGAAACATCTGC	CTCATGCGCGTCCACGAAAC	unavailable								3								
VT016245	BL	CAGCAGCGACGAAACATCTGC	CTCATGCGCGTCCACGAAAC	unavailable								3								
VT016253	L	CAAGTTTGCAGCTTAATTGGAGCAC	AGCCTTGCCATTGTTTATCGCAC	unavailable								2								
VT016254	E	CGCTTTATCGCCAGCCACAGATT	TGCCTTGATCAGATTTGCGTATCCC	VDR								2					2			2
VT016255	E	aaacCGGCGCAATCAAAACGAATTT	CTCAAAGGGGGTTGCGAAGGGGT	unavailable		JRC			BDS		BDS	3								
VT016256	E	CATAGCTGTGCCAAAGATGCAACGGGA	TTGGTAAACCTGACATTGCGCGAGA	VDR		JRC			BDS		BDS	4				2				2
VT016257	E	CCAACCTATTAGCAATCACACGACCC	AAGAATGATCGTGCCAAATGTTTATAGCC	unavailable								2								
VT016258	E	GCCAAGTGCTGAAGTCGAGAGCGT	GTGTGTGCTATGGCGATGGAGATGG	unavailable								3								
VT016259	E	TTTCAACGTTAATCCCCGGCAA	CGATTGAAGCGCACATAAATACCCGT	unavailable								4								
VT016263	E	GTCGACATCTGCATTTGCACTCAT	TGGGACTCAACGGCGACAGGATA	unavailable								2								
VT016266	E	ATTTTCTTTGGCTTTCCCCGCTTT	GTGTGCCCGACATCCCTTTGCT	JRC	JRC	unavailable	JRC	unavailable	BDS	JRC	BDS	5	3				2			2
VT016269	E	AAAGTGGAAATGAATCCCCGCGACA	GGGGCTAAACATGGCGCTTAGTTGTC	unavailable								4								
VT016270	E	CCCAACTCTCAACATTGACAGCCACAA	CAATATCGTGTGGCATACTTTATAGCAATGG	JRC							unavailable	4								
VT016271	E	ACAACAACAAGCTATTGTCCGAAACAAT	GATGCCAGACACAGGCAACGCTG	unavailable								3								2
VT016272	E	gaatccccggatACGGTTCCAAAGT	CCTCTCCTCCGTAGTCCACCC	unavailable								2								
VT016273	E	TCGACGGCGCAAGGATAGATCAAAA	TGCCAAATGGAATATAGCCAGCGGAG	JRC					BDS		BDS	3					2			2
VT016274	E	TAAAAATGGACAGCTGCTAGCGGGGA	CCACTCGATTCTGCAATTTGTGTCTTT	unavailable	JRC	unavailable	JRC		BDS	JRC	BDS	3	3		2	3	2	4	3	
VT016275	E	GGCCACCATAATCGAAAGCCA	GAGTGGCGTGTTTTGGGAATGGA	JRC	JRC				BDS	JRC	BDS	6	3		2	2	3	2		
VT016276	E	TCTCTTGGCTTTTCAATGAATGTGT	GGCGCTGGCTTTCCCTCTCTC	JRC		unavailable			BDS	JRC				2			2	2		
VT016277	E	AAGCCAGGAAGCCTATAAAGCCCA	TTTTCTTTCCGCGATAAATCAAGCA	JRC	JRC				BDS			2	3		2					
VT016278	E	TGCGAAATAGGTGGAATATCGGAGC	CTGCTGAGGCCACTTGGTCCATTCT	VDR					BDS			4					3			4
VT016279	E	AAATTAATCTCCGCTTGTGAGATTCCTC	TAAATCTCACCAGCGCTCACATCC	JRC	JRC				BDS			2	2		4					
VT016281	E	GCAATTTAAAGGTTTTTCAAGTTGTCCGCT	GACGATGATGAGGGGGAGAAACC	JRC					BDS			3								2
VT016282	E	AATGACCCAGTCGAGAAGCCCGAAG	TTGTGAGCGATTAAAGTCAAAATCCAGA	JRC					BDS			4								
VT016283	E	GAGAGATGGCGTCCCAAAACACC	TCCCCACGAAACATAAACTAAAACTAAAAA	unavailable								5								
VT016284	E	CAGGGGTTGCTGCTTTTGTATCCC	CTGCAATTGAGCTGCCCGATCAT	unavailable								3								
VT016285	E	GTTTACGAATGGGCGAGCAACAC	GGGGAACCTCAGTCAAATGCAGAAA	VDR	JRC		JRC		BDS		BDS	4	3		3					
VT016354	E	GGCGTGCAGAAATCAGGGCTACTAC	TGGCGCTTAGACAAGCAAGTGGGA	unavailable								8								
VT016356	E	ACCAATACTCAACGCTCTCATACGCTCT	TCCAGCGTCAAAAGATCCAAATG	unavailable								2								
VT016357	E	TGCGTTTGTGTGTTGTTGATGTG	CGTATGCAGCAGCATTTGCC	unavailable								3								
VT016371	E	TGCGGACAACGGAGGAGCAAG	GCTGAACGCCTACAGTGCCTCAA	JRC	unavailable	JRC			BDS	JRC	BDS	3			2	2	2	2	2	
VT016409	E	TGCTTTTGGCCGTTATTTGACTTGG	GTGATCGGCCGGAATATTGTGCTT	unavailable											2					
VT016423	E	CGGACTGTTCACTCTGTCGGAGATT	CGTAGCGAAAGTGGCGCACACAC	unavailable								3								
VT016424	E	TCGAAGTTAGTGACCCAGCCCTGAT	AGGCGAACCGGTTTCAATTTGATTT			JRC														
VT016426	E	GGTCATAAATGGCTTCGTTTTGCGCT	AGTCCACAGATTTGGGCAAGCTCA	unavailable								2								
VT016452	E	AAGACCGACAAGAGCTGCCCGA	GGGGAATAATGTGAGCAGGTGTAGAA	JRC					BDS		BDS	3					2			2
VT016454	E	AAAGAGAAGAGGTGGCCAAAGGGG	TTCAGAATATAGGTATACGATGCCCGGA	JRC					BDS		BDS									2
VT016455	E	TGGGAATAGTTTAAACCTTGAATGACGCC	CAATGACGCAACGAGAGCGATAAAA	unavailable								3								
VT016456	E	AGTCGCTTTGAGGCTGGGACAATG	GTCTACATGCCATCGGCTGGGAAA	JRC	JRC				BDS	JRC	BDS	4	3		2		2	2		
VT016458	E	CCCAACCCCTTGTGCTGTCATC	TGAATATCCATGTAAATTCGTTGACGCG	VDR					BDS		BDS	3			1					
VT016459	E	GCCTCTTTGTGTAGACTCTGTTGTTG	CAGTGGCGTGCATCAGTTCT	unavailable								5								
VT016460	E	GCAGCCAGCAGAGCATAGAAGACA	GCAGAACGGATAAACACAGATAAGCA	JRC							BDS	6								2
VT016461	E	TGCGCTTTCCGATTGATTGTGT	ATCTGTTCCGCTGGCTGATCATCT	VDR			JRC		BDS	JRC		3				2				
VT016462	E	CAATGTGGCAGCAACGAAAAGGC	TGGCGTATGAAATTTTCCCTCAA	JRC			JRC		BDS		BDS	2			2			2		2
VT016463	E	AAAGGGGGGTGGCAGAGAGG	GCAAGCAAACTAGCATGGAACATAAAG	unavailable								3								
VT016465	E	ATAATTTGCAATTGTGCGCAGCTC	ATGTTTGGCCCTCCGATTGCC	unavailable	unavailable	JRC			BDS	JRC		3			3	2	2	2		
VT016466	E	GGCAGCGAGGCTGATAGACAGTGAA	GCATTTCTGCTAGGCTCGCTTAATATTGC	unavailable								2								
VT016467	E	AACTCGGAATGTGAAAAACCCGCT	TATTATTAGGCACTTGTGCGGCGG	unavailable								3								
VT016471	E	CCATTTTATCCGACATTTCCCTGCG	CACTGGGACCGAGAAAAACGAGACA	VDR		JRC			BDS		BDS	5				2				2
VT016472	E	GCCAACAAGCGGGATGAAGGATG	caacaacaacaacagacagGGTGAA	unavailable								2								
VT016530	E	GGGCCACCAAGTCGTTGTTGTAATC	GGTTAGCGATATATGCATGAATAGCCTAGAAAA	unavailable								2								
VT016533	E	TCTGTGTGCGGAGAAATCCCAAAA	GTCAACGTATGTTGGTGGCGAGA				JRC													
VT016544	E	TCGGGAGATTTTGTGCTGGGTATGT	CTAAACTGACCTAAAGTTGGACTTCGCATTT				JRC								2					
VT016551	E	GGGCGATTTGCGATCAGGAGG	TGGCTGTAGCTTCTGACTCAGTTTCAGATT				JRC													
VT016577	E	GAGTTGAGCAGCATCAGCGCGTAG	CTTGGCCAGCAATAGATCCTTGGG				JRC													
VT016582	E	CACCTGACAGCAACAAAAACCAAA	GCAACTGATCTACTTGTCTGGCGG				JRC										2			
VT016585	E	CTGCTGCGAGCGGCGAT	GAGCGGAGACCAAGGCACTCAAAA	unavailable								2								
VT016589	E	TGCTTTTGACAAATCAGTTTAAAGAACACAAACA	CAATCTCGCACTCTGCCCGATAAG	JRC																
VT016593	E	TGCGAATTGTGTAATTTTTCGATCCG	CGCGTCTTCTGACGATGGGGA	unavailable								2								
VT016594	E	GCAGTTATCCATGCAATTTGCCGT	TTTGGGAAGCGTGTAGCGCCTTTT	unavailable								2								
VT016600	E	TGTGGAAATGATAAGCGAAACGAACGA	AGAGGAAGCCTGTTTTCGGGATGGG	unavailable								5								
VT016602	E	CCACATCCAAGCAACCAAGAGTCCA	CCATTGCTCATTTCTCTTCCGGGT	unavailable								3								
VT016604	E	CAGTTTCCAATGGCTTGACGAAGG	CGATGCCAGATACCCAGATACCA	unavailable								3								
VT016605	E	AGCAAGAAACGGTGACGGAGACGAA	GCACATTGGGTTGAATTATGGCGAA	unavailable								4								
VT016606	E	CTTGCCCGCTTTCCCAACTTTC	CACGGGCAAACTCAAATCCGT	unavailable								3								
VT016607	E	CATTTAGTTGGTAATAATTTAAAGTCCCGTTTT	ATCATTTGCTGGGCTTTGGGGTTTG	unavailable								3								
VT016609	E	GCCCACTCAGCTCCTCATCTC	GGGCGAGCTGTGCGCTTGT				JRC		BDS											
VT016610	E	AGCATCCACAGCTCGCACCACTAC	TGGCTTGGCGTTTGGCATTTATGTTT	JRC							BDS	3								2
VT016612	E	GGCGTTGTGCGCACAGAGAAAA	cacatacgcacacactgcacactC				JRC								2					
VT016613	E	CGGCAAAAGAATTGCTGTCTACG	TGCCACACTCTAAAATGCTGCCAAA	unavailable								1								
VT016617	E	TGCGACTTCGATTTCAATCTTCTC	GGCGCTGTCAACCAAAAAACAAA	unavailable								4								
VT016621	E	CGAGATCCGAGTGTGTCAGTGGAG	TGATGAAGTAGTGTAGTCGGCGCA	JRC	unavailable				BDS	JRC		5			3					
VT016622	R	CGGCCGATAGGTTAAGCAATTTTC	CCAATGTTTTAATATTGTTAGCTTATCGGCAT	unavailable								2								
VT016623	E	GCTCTGAAAAATCGTTTCTCGTGA	CAGGTGGAGTAGCCCACTGACAGAA	unavailable								2								

VT019073	E	TCAAAAGGGTGTGGACTTAAATGCTTAGA	TTCTGGCCAAACCACCTCTCACACA	VDR	JRC		JRC		BDSC		BDSC	6	3				2		2
VT019074	E	TGGCCATTGCAATTATCTCTCGAT	TGCTTTTCACTCATGCGAACTCAAGG	VDR	JRC		JRC		BDSC		BDSC	2	3				2		2
VT019075	E	CCAAAATCGCTGCGTTTCATTTTGTG	tgCTTCTGTGATGCTGATATGGGTTAGC	JRC	JRC	unavailable	JRC		BDSC	JRC	BDSC	3	2	2	3		2	2	2
VT019076	E	TCGAACAGACGAAACTCCCACTG	TTGTGCTGACGGAAAAGGAAAAGG	VDR			JRC		BDSC		BDSC	6					2		2
VT019077	E	TGCTTTTATACCATTATTTCTCAAAGTGATCCAA	CTCTACTCAACGGCATTGTGAGGGG	unavailable								5			2		2		2
VT019078	E	CCAATCGCTCCCAATCCACTCAC	TTCCGTTGACAGCGGCTGAGGATTT	unavailable								4			3				
VT019079	E	GTGCTTCTGCTGGCTGCCCTCTT	AGGTTAGATCAACATCCCTGGTCG	VDR					BDSC		BDSC	4					2		2
VT019080	E	AGCTGCATGGTCAAATCTCTGCC	CAAGCCGTTTACTTCGCTGGTTT	unavailable								2							
VT019084	B	TGAAACTATAAACCGCGAGGCGAAG	TATCGCGAGTGGAGTCCGTTTCGTT	unavailable								7							
VT019084	BL	TGAAACTATAAACCGCGAGGCGAAG	TATCGCGAGTGGAGTCCGTTTCGTT	unavailable								7							
VT019087	E	CTGGAGATCCCGACTTCGATGATG	GACTGAGTTCACGGGACCGCAAAA				JRC												
VT019088	E	ATTTTCGATCGGATTCCGTACGCTG	TGTGGCATAAAGACCCACGCTTCC				JRC								2				
VT019089	E	GACACGTTCAAATTTCCGCCCT	GCCCCCTCGCTCTTCTTCTGTGCT				JRC												
VT019145	E	ATGGGCGGTGCTGTTTGTGAAGTG	GGCTTTTGGTGCTGAGGGGGTT				JRC										2		
VT019183	E	GGAAACGGAGGTAGTGCCACAAA	AGAACCACGCCCAACATCATCAC				JRC										3		
VT019194	E	GGTTCCGCCCTTTGCAATT	GCAGGTGCCACGCCACTTT				JRC										2		
VT019231	E	ATTGTGTACGTTCTGTTCCGCTCA	CATTTTATGCCATTTCCTCTTTTCG	unavailable															3
VT019235	E	GGCAGTCGCTTCACTTTTAGAGGCA	TCGGCTGTTTATGTTTGGTTCGTT	JRC				unavailable	BDSC		BDSC	2				2	2		
VT019236	E	GCTTTGCTTTCGGGCTCTGCTTTT	TGGGGGCGAGGTTTCTTAACTTTTG	unavailable					BDSC		BDSC	3					2		
VT019237	E	TCAAATGGTGCATAAAGAAACAGTCGG	CCAAACACGAGGGCAACACAAATAA	unavailable			JRC					2			2				2
VT019238	E	TGATTTAATAACACCTTCTTCGATGCGCT	TTGATGGGGCAACCAAGTCTAATG	unavailable								3							
VT019240	E	GCATAGCGCATTGAATTGGGTTAAAGA	GAGGCGAATACCCGCTACAGCAAA	unavailable								4							
VT019241	E	TGCAAACTCACTCAAATTGCGCAAAAG	TGCAATGTTGTTAATGAGTGAATGT	unavailable								2							
VT019242	B	TTAGGGATGGACAACTGACGCA	AGCTCAACACCTGACTGCTATCGAA	unavailable								5							
VT019242	BL	TTAGGGATGGACAACTGACGCA	AGCTCAACACCTGACTGCTATCGAA	unavailable								5							
VT019255	E	ATGACGATTTGCTGGTCTGGGACTGA	ATTGTGTGTGTGTGCGTACCGTG				JRC										2		
VT019257	E	ACCCGACTGGCGAACACAAAG	GCGCTCTCCAAGCGAATGACTAA	unavailable			JRC		BDSC			3					3	2	
VT019272	E	TGACCAACGTCCTACTACTATTCCA	ATGCCCCGATTACTCAATGCCCAA				JRC										2		
VT019285	R	ATCGACGAAGCAAAAGACGTCCACA	AATCGCTGATGCGGACTAACGAA	unavailable								8							
VT019287	E	TGGGTACAGTGTGTATGCTGTGTGG	GATAAACGTTTCAGCGAGGGGAGTG	unavailable								2							
VT019288	E	TGTTTTAGCTTGTGTGGCTTGACCT	GGGTATACAAGATGCGGCCATAAATCC	unavailable								3							
VT019289	E	ATCAAGGTTTCGGCGAGAGTTTTCC	CGCAAACTCGAATGTAAATCTGAAGCAC	unavailable					BDSC	JRC		8			2		2	2	
VT019290	E	TTTGTGATTTGTGTGTGTATGTGCC	TGTTTGTGTTTGTGTGTTAATGTCAGTTTTTCCA	unavailable								3							
VT019291	E	AAAATGGTTTAAAGCGAGTTGCTTTTG	AAGGACGCGCATGTTGAACGCTG	JRC					BDSC		BDSC	3							
VT019292	E	CCTGTGTGTAATGCGACGAGAA	TTAGTTGGATACCCGAGAGGCAAA	unavailable								2							
VT019294	E	TCAATTCCTATTAGAACATACAAAAGCTGATGG	GCATTAGGACTTTTCCACAAACGCAAAA	unavailable								2							
VT019297	E	CCCCACTGAGCAAGCGAGTAACAAA	TGCACCCCGCTTAAATGAAGAAG	unavailable								6							
VT019298	E	CATACTCACCTGCACAGCACATCAA	TGTTTTGTTTTGCCATTTCTCTGCT	JRC								2							
VT019301	E	ACATTTCTACAGCCGCCCTCGGTT	TAGCATCTGGCAGTCGGGATGAG	unavailable			JRC		BDSC			4			2				
VT019302	E	CGCCAAACTATCGAGGTCTCAGCAA	AATACCAATGGGACGTGTGTGGG	unavailable								2							
VT019303	E	GCCACAACGAAAGGAAACCAACAA	ACCCTAACATCTACCGAAGCGCCA	JRC							BDSC	3							
VT019304	E	CTGGCATTGCGGTTCAAGTTATTCA	TCAAAGCTCCTGCTCTGTCTGTCC	unavailable								3							
VT019305	E	TTCGGCTCAATTATTGCGACGGTTT	CGTGAACGGGTTTCCAGCTTACAT	unavailable								2							
VT019306	E	CATGGACGAAGACAGCTCTGGGAAA	TGACGGATGAGAACCCTTATGGCGG	JRC					BDSC		BDSC	5							
VT019307	E	GGGCGTTTATTTCTTGATAACTTTTG	GCTCCTCGCTCGCTCTTTCAACT	JRC					BDSC		BDSC	2					2		
VT019309	E	CCCTCAAAAGATGCGATGAGAAAA	GTGGAGGGGATTGTGGGGATAGGA	JRC					BDSC		BDSC	3							
VT019310	E	GAGGGGTTGAGCTCTGAGTTTGTCTT	GCCATCAACACATCATCTCGTGACT	unavailable								2							
VT019311	E	AGATTGAGTGGTGGGGAAGTGAA	gCTGGCACTTTTGTGGTCTGCTG	unavailable								3							
VT019316	E	ttcttgaattGGTGCACTTGCGCT	GCGCCTGCAAAATGCTGTTAT	unavailable								2							
VT019317	E	TGATGGACACTCTGAATGCGTGCT	CTGTCGAGGAAGCTTTGGCTCCTGT	JRC					BDSC		BDSC	3					2		2
VT019320	E	CGCTCAGGAGCACAAATAAACCTTG	CATTCAACTGACCTCCGCTCTCGGA	unavailable								2							
VT019324	E	TAGCCAAAGCCGAGGACCAACAAAG	GCATTTATGCACGATTTGGCATTCA	unavailable								3							
VT019326	E	TCAATTTACGAGTATGGCTATTTCCCTTGA	TGAAGCAATGAAATATTGCCCGAAC	unavailable								4							
VT019327	E	CCGAGCGAGCCAAACAAAGATG	CTTCGGCTTGTGAGTAGTAGACTTAAGATGGG	unavailable								2							
VT019328	E	GGTAGAACCTCAAGTGTGCTCCG	TGTTTTGTTGCTTGCTTTTAGTTCA	unavailable								2							
VT019329	E	TCACATTTCTGTTGCGCAATTTCC	TGCTCTGATTGAATATTTCAACATTTT	unavailable								3							
VT019330	E	TATGTGTACCCGCCCGGTATGAAC	ACGGATTAGGCTCGCAGTAAGTGGG	JRC					BDSC		BDSC	6					2		2
VT019331	E	TGGCGAAAGGAAAGAGCAATCAGT	TCCCCTGCACTCCCATATTTTCC	unavailable								2							
VT019332	E	CTAGCCGCTTTTGTGCAAGTGT	AAGTGAAGGAGCAGATGGGTGCG	unavailable								2							
VT019333	E	CCCTCTTGATCCACATCTGCAACTC	TAAAGTACGCCAAGCAAGCGAGCAA	unavailable								3							
VT019334	E	TCAATCAGCGACGAAGACAACCTGCC	CAATCCTTGTGAGGACAGTGCCAAAC	unavailable								2							
VT019338	E	TGTGTTAATCATCAATAAGGGAAATAAAAGCG	GGGAAAACTGCAAGCAGGTGTAGA	unavailable								4							
VT019339	E	TTAAACGGTCTTGTCAACCGATGC	GCAAGGTGTGGGCTTACCACTTCA	unavailable	JRC	unavailable	JRC	unavailable	BDSC		BDSC	2	3	2	2	2	2		2
VT019340	E	GGCCAAATGCCAAAATCTATATCGCT	ACAGTTCGTCACACCACACACGCA	unavailable								2							
VT019341	E	TGAAAAGCGTAAACTGTTCACTTACCGAGA	GGTGGCTTTCTTTTGGTGCCCTTT	unavailable								2							
VT019342	E	GCACAGCGGCAAAACGAGA	TGCATTGCAAAATCCACATAACACAA	unavailable								2							
VT019344	E	CATTGAGACGCCCCCAATTCGTT	TGAGCTTGGCAATTTGATTTGCTGT	unavailable								2							
VT019345	E	CGGCACTGAAGGAGATACAGGCAAA	GGCTAAAGAGAATGAGATGAGGCAA	JRC					BDSC			4					2		
VT019346	E	GGCGATGGAAGATGTAAATAAGGGGG	TGAAATGTGCTGTTGCGAGGACTT	unavailable								4							
VT019347	E	GAGAGAAAATCAATTGACCATCGATACGAA	atccccattccattccatccgAAC	unavailable			JRC					4			2				
VT019348	E	GCGGTGTTTACTAGCTGAATTTAAGTATTGTC	TTTCCATCGGCCACATAGCTCGTT	unavailable								8							
VT019349	E	TGAATATGAAAAAGCTCTATCGCG	TGGCTTTCTCACTGTTCTTTTGGCTT	unavailable								2							
VT019350	E	TGCTACTGCAATCAAAACCTCTCTAACCC	GCCTTTGGTTTTCGCGTCAGTTTC	unavailable								3							
VT019351	L	TGCACAAAGTTTGTAGCTCGAACCTCGAA	GCGGAGCTTAGACACACTCTCA	JRC					BDSC		BDSC	3							2
VT019352	E	ACTTGATGACGGCTAACGGAATCGC	GCTATAGACATTAATAAGCAACTGAATAAGCATG	VDR								2							
VT019353	R	TCCTCTTTTGGGCTTTAGCCCTT	CGGTGCTGATGGAGTCAITGCTCT	unavailable								4							
VT019391	E	GCGTGTGGGTTTGTCCATAAAAA	CTCAAAACAGAAACGCTGCCAACCC	JRC					BDSC		JRC	2					2		
VT019398	E	CAACGAAAACGACGAGAGCCACAA	CTAAACGAAGCGCATGAAAGCGGG	JRC					BDSC			3							

VT019838	E	TGGCTGGAAGTCTTCTATCGCTCGT	CCTCATTATTTCCGAGACCTGAGGTTTT	JRC	JRC		JRC		BDSC	JRC	BDSC	6	2					2	2	2
VT019840	E	AAGCGTCTGCGTCTGTCAATTGTGTG	ATGGATTGGCCCTTGGCTCTGG	unavailable								3								
VT019841	E	AGCCGAGTGGTACTCGTGTTCGTGG	CCAAGCCAAATTCGGATGGTAAAA	VDR		unavailable			BDSC	JRC		3		2				2	2	
VT019842	E	TGGCTGGCTCCTATAGATCCTCC	AGCCAACCTCAAACCGGACAAAA	unavailable		unavailable	JRC		BDSC	JRC		3		2				2	3	
VT019843	E	CACACGCATAACATACCACTCGGCA	TAAATGCCATTGAGCGGGG	unavailable		unavailable	JRC		BDSC	JRC		6		2	2			2	2	
VT019845	E	GAGCTAACGGTGGGCGGAATGG	GTGAACGCGAGCAATTCGATGG	VDR					BDSC		BDSC	7								2
VT019895	E	GGCAGACCTGAAAAAGTACCGCC	ACCACAAGGAACGCTCGACCTCT	unavailable								4								
VT019896	E	CCTTCTCTGTTGAAAGGACGACTGTATG	TTAACCGAAGCGTAGCGCGAAAA	VDR					BDSC		BDSC	3								
VT019897	R	GTGTGTGTGCGGCTGTAATGTGGT	TGTTAATCTGCTGCGAAATGAGCTT	unavailable								2								
VT019899	E	CTTTCGTTTTTCAGCTGCTGCTTTG	TCATAATTTGAAAAGCTGTGATTGCGCT	unavailable								3								
VT019900	E	TTGGCTCAAGGAGTTTGGAGGGGAAA	aaacAGCAATCAATAAATCAAAGCAACT	unavailable					BDSC			5								
VT019901	E	TTTCGATGACCTAACTGCGCGAAC	GCGACAACAAGCAAAACGCACATAAA	unavailable								3								
VT019902	E	TTCTGCTCAAAAATTCGCGCTCC	TGAAAGCGGTATGGCATTAGTTTTAATGT	VDR					BDSC		JRC	3								
VT019903	E	ACATCTAGCATGTTTCATGTGGCAA	CCCACCTACTAATGTGCACAAGGAAAA	unavailable					BDSC			3								
VT019904	E	CTCATCATCCCCACCGCCCC	TGCTGCAAGGATACGGGATACAA	unavailable								2								
VT019906	E	GTGCTCTCTCTGTGCTGTCTGTT	TGCGCGATGTCTGATTATGTATGCT	VDR					BDSC		BDSC	2							2	
VT019907	E	CTGGATGAAGAGGAATAAGTTTGATGGA	TGCTGGAGGAGACGAGGAAAA	unavailable								3								
VT019909	E	TTAAATGAGATTTCGCGCTTTTCTTT	AACGAGAGCTGATACACAGAAATCTTATGGAG	unavailable			JRC					2		2						
VT019910	E	CAACAGGACATCGGAGAGGGTCTT	TGGGGCATATTATTTCAGCAGAGCGT	JRC					BDSC		BDSC	7						2	2	
VT019911	E	ACGCGCTGCCAAGAGTCAAGTTTT	ACAGTCTTTCTCTATTCCACAATGCAGG	JRC					BDSC		BDSC	4						2	2	
VT019912	E	CGCGCGCATTTTCCGCTTTT	TTGGAGGCGAGATGGTTGAGTGT	unavailable								3								
VT019913	E	TGTGTATGCTCTCAGCGAGCGTTC	TGCGATGAGAGCTCGAAATAAATGG	unavailable								2								
VT019914	E	GGCTGTGCTGATACCGTCTCCAAT	GTGCCACCCAGTGCATAAECTGAA	unavailable								4								
VT019915	E	AAGGTCCGACAGACTCCGTGTCAAA	CACCGAGGAGCGACAGGTGTCT	JRC					BDSC			5								
VT019916	E	CCTAAGCTCGGACAAAGCCAGTGTG	TGGCGCGATTGTTAGGGATGCT	JRC					BDSC			4						2		2
VT019917	E	TGTTAAAGATTAAACCAACGCGGAACA	GGCTATGGATATTTTGGCTTTAATGGTTT	unavailable								2								
VT019920	E	GGGCGGTTTAAACATAGAACAGTTGGA	TATCACAGCGCGCTAGGATGGG	unavailable								3								
VT019926	E	AGGGGTAACTGTGGAATTTGAAAGCA	GCTTCGAATCCGTATCAAAATCCG				JRC							2						
VT019954	E	GAGGATGCAACTTTCAGTCCCGT	AAACATTTGGAGAGGCTTTTAGCGTTG	unavailable								2								
VT019961	E	TGAAATGCGGAGGCTAGTGTCTTT	TATTCAACAGCTTCCCTCGCTTTT				JRC							2						
VT019974	L	CGCGTTCGATTGGACAAAACACAAC	ACCTCCGTTTTCCAGGACATTGCTT	unavailable								8								
VT019992	E	ATGGCCGAATGGGACAGAGGAG	CGATTCAAGGTGCACGCATCCAA	JRC	JRC	unavailable	JRC			JRC		6	3	2					2	
VT020016	E	GGGCTCTCCAACACACAGGAC	TGTATGGCATGAAAACGAAACGAA	VDR					BDSC		JRC	3								
VT020018	E	CTTATTGAGTTGCTGCGCGCGCT	TGAAACAAAAGTTACTTGTACCAATGGCC	unavailable								2								
VT020029	E	GGTAGCGAATTGGCAGTCAGGTGTG	AAGAAGCAGTGGTGGTGCAAAAA	VDR	JRC		JRC		BDSC	JRC	BDSC	5	3		2			2	2	2
VT020030	E	CGCCACCGTCAGCATCTCATATC	TGTTACATAGCCACGCACTGAA	unavailable								2								
VT020033	E	GCCTCCGTTATCTGTTGGGAG	AATCGCACTCAGTCGGTGTGTTG	unavailable			JRC				BDSC	4			2				2	
VT020035	E	GATCTCTCAATCAGCCAGGACA	TCGCTGAAAAAGAGGGCTCAAATC	JRC			JRC		BDSC		BDSC	3			2				2	
VT020036	E	CAAAAGATTTCGGAATTTCAATTACCGTT	GCTTTTGGGCTGCCAATGTGTGT	JRC			JRC		BDSC			4			4					
VT020037	E	AAAAACCTTGAAAAATTCCTCCA	ATTTACTCATCCTTTGAGCCCCGCC	JRC	JRC		JRC		BDSC	JRC		2	2					2	2	
VT020040	E	CGCAGAGCGAATGAGACCAAAGTG	AAGTACGTATTAGCGAATTGCCAATGAATC	unavailable	JRC		JRC					3	3		2					
VT020041	E	CCCGCAACTGGCAAAATATCA	CTCAGCGTCGAAAAGCAGACTCGAA	unavailable								3								
VT020065	E	CCTTGGATATCTGCTGTTGGGACG	GTGCTGTGCTGGTGGCGGAATG	unavailable								2								
VT020107	E	TGAACGGAAATGGGTGAGTTTGCT	TGCTCAACAGCTGGTCCAATCTGA				JRC							2						
VT020119	R	ATGAAATAAAGCGCGCAGTTGACA	GTAAACCGTCGACGAACCGCAC	unavailable								2								
VT020120	E	GGTGACGGGTTACATCGCCTTCT	CCATAGTGACGAGGACACCAATC	unavailable								3								
VT020121	E	GTGTGAAAGAAATCGAAAATAGTGAAGCC	ACTCATTTGCACTTAAATGGTGCA	unavailable								2								
VT020122	E	TGAAAAGCGGAAAAGCTCGTGTATGT	CTGACTCAATTGGGCTTGACAGCT	JRC		unavailable	JRC		BDSC	JRC		3			2				2	
VT020123	E	CGGCCTTACACCACTAGTTTAAAGCA	TTGTGGCAATTTGGCGTAGAGTTGG	VDR	JRC		JRC		BDSC			4	3							2
VT020124	E	CGTCCGTTTTGAATCTCCTGTGGCT	CATCTACTGAGGAATGCGCAATTCGATTA	unavailable								2								
VT020125	E	CACCTGAACCAACGCAATGGGAG	GGCCAAAAGGGGCGGAATATTTTA	VDR			JRC		BDSC		BDSC	2						2		2
VT020126	E	CGACGACAGACCTTATCAATGCC	CCTGGTCTTTGCCCTTACTCACCA	VDR					BDSC		BDSC	2							2	
VT020127	E	TCCAAGTGGGACGATATATTTTCA	CCTAACTCCTATCTGGTGTGTTGCACG	unavailable								3								
VT020128	E	GGCCCTGGTACATTTTATTGCATA	ATCAACCCCTTAATACCCCGCCCC	VDR							BDSC	3								
VT020129	E	TTGACACCATGCTTACACTTCGGG	ATAGGGAAATCGTCTGTCGGGG	unavailable			JRC					3							2	
VT020130	E	AACTTCTGTAGTGAATCTGTAGAGCCACC	GAGGCTGACTGCTGTGCTGCTC	unavailable								2								
VT020136	E	TAGAATGCGAGGCGAGGCGAGAA	GTGCTCACTGTTCACACTGTCC				JRC													
VT020191	E	CCGCTGAGAATGGTTGTTGCTTG	GGCCCTCTGCGGACAGATTGTA				JRC													
VT020198	E	GTGCTAAGCGCGAGAGAGAAAGGCA	CTGTGATAGAGGTGTTTTCCCGA				JRC													
VT020252	E	CCTGTCCGGCATAAAGCGGTCTTC	TGCCATTTTCACTTCAAGGGCTACA				JRC								2					
VT020297	E	GCCATCATACACATCAGCAAAATCACA	AGCTGCATTTACACCTTCGTTGGC	unavailable								3								
VT020307	E	ACAAAGCCGAGCAGCATCAATAAG	TGACAATCTGAGGCTCTTACATGGCA				JRC								2					
VT020308	E	CCCCAAAATTTTTCCCGGTTTTT	TCCAGTGAATTTGTACAGTGTGCG				JRC								2					
VT020338	E	ACGACGAGACGGGAGGAGGAAAA	TGCAAGGTGCCTTGGAAAATGAAGA				JRC								4					
VT020369	E	AACTGGCCCCCGCGATGAG	GGTGTGTGCGGTGTGGTAAGGA	unavailable								3								
VT020370	E	CAATGCGAATGGGAACGGAGAG	GCCTTCTCTCGACACTGGAAAA	JRC					BDSC		JRC	7								
VT020371	E	CACACACCTCATCTCATCTCTGT	GCCAACATTTTCGTAGCATCGCAGT	VDR		unavailable			BDSC	JRC		3			2			2	3	
VT020372	E	GTGAAAGGCAATGGCAAGGAGTG	TGGTGTATCTCTGCTGTTCTGCTGT				JRC													
VT020379	E	GGCGTGAGATGCTGATCCGAGAGT	AAAGAGGTGGCAGAGAGGGGAGG				JRC		BDSC		BDSC	3						2		2
VT020431	E	CCCAACATCTTAAATTTGCTAGTACCTTGT	TCGGGATGCCTCATAACTTTAATGCC																	
VT020472	E	ATTGAAGCCAGGCATTGAGCATT	GGCCAAAACCTGGCAGTGGA	unavailable					BDSC		JRC	3								
VT020484	E	GACACAGGCAAACTACTGGGATTGG	GCCCGGTAATAACAGCATCTCAC	unavailable								3								
VT020502	L	GCCAAATCTAGCTGGAAAATACGTTG	TGCACGCTTCCGATTGCTGATCT	unavailable								3								
VT020515	E	CGCCCCCTAAAGTCGCTGAAA	GGCGTTACACATGGTTGGATGGATG	unavailable								2								
VT020527	E	GCATATGGTTAAGTTGGCTTTGGCTTTG	TCCATATTCAGTTAGCGTTATAAGAAAGCACA	JRC		unavailable			BDSC		BDSC	2			2				2	
VT020572	E	CTGGATCGCAAAAGCGAAAGGA	AAGCAATCGAAATACAATCTAGAGCCAA				JRC													
VT020590	E	CTGCCGCTGTCTTTGTTGCGTTT	GGGGACTCGAGCTTAAATCTTCCA	unavailable								3								
VT020596	E	TATTTCTAGCGAAGGACTTCCCC	CGCCCAAGTAGAAAAAGTGGTAAAGGGA	VDR					BDSC		BDSC	6								2

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VT038814	E	GGGGGAAGTCGAACCTATTGCTTCTAGGT	TGTTGAATAAACACGACGGCGAAAGG	JRC			JRC		BDSC		BDSC	2						2
VT038815	E	TCCCTTTCCTTACTCTGACGCTTGT	TTTCAACCCAGCGCAGTAACTTTGG	JRC			JRC		BDSC	JRC		6						
VT038816	E	AGCACACACACAAGCACACAAACATC	TGTTGCTTCAACGCGGCTTAATCG	JRC	JRC	unavailable			BDSC		BDSC	3	3					
VT038817	E	GCCTCTGTAAATCTCAATTGCCTGCT	TGTCATCAAGTGAAGAACCAACACA	VDRC			JRC		BDSC	JRC		3	2					
VT038818	E	TGAAAGGGTAATTTCAATTTAATGTTGAAAAGCTG	GGTTTATGCCACGGCTAAGTGCGTGA	JRC								3	2			2	2	
VT038819	E	cggactcggttgcAGATCCA	TGGGCTGATGAATGTGAATTGAAGTTTT	unavailable								5						
VT038820	E	CAGGTGGCAAAAGAGAGCAGCAA	GCATTGACGATGACAAGGGCTTCA	JRC					BDSC	JRC		7				2	2	
VT038821	E	CACAGAACCAGTCATAATTTCTCAACCG	TCCTTTTGCACTGTCAAGCTTTTCTTTGT	JRC								2						
VT038822	E	AAATTAATGTGGCTCAAAGAGAGCGGT	TGAGCTATTGTCTATTTAAAACCTGGTGCTTG	JRC		unavailable	JRC		BDSC	JRC		4	2			2	2	
VT038823	E	CCCATGATAGGCACACAAATGAACG	CGACAGAAGGCGGGAAGACACAGACA	JRC					BDSC			3						
VT038824	E	CTAAAAGCCCTCAGCAGCAACTCG	GGCACAGCAAGAAATGCACATAAGAGAA	unavailable								3						
VT038825	E	TTTATCTAAAAAGCTCAGGCCCCC	GCGTAGAATTTTCAGTTGGCGCGCA	unavailable								6						
VT038826	E	TTCTTTATTTCCGGTGGGGACACGC	AGGATTACCGCATAGTTCTAATCTCCA	unavailable								2						
VT038827	E	TGCAAAACATTTTCACTAATTTGGCAAGAC	TTTGCATTTTGAATGTTTTCTAGCTGATTTT	unavailable								4						
VT038828	E	AGTTTTTCCCATTTTCCCATCAACAAAA	CCGGAGGACCCGAGGACTATGCTAC	VDRC			JRC					7						
VT038829	E	TCGTACCAAGCGGCCCATTTATTTCC	gCTATGTTCTTCCAGCAGCGCTCATC	JRC					BDSC			2					1	
VT038830	E	catcggggCATCTCGAGAGAC	CGTTTTCGTTTTCTCGCCATTTCGT	unavailable								5						
VT038860	E	AATGACGTAGGCTCAACTGGCTGGA	GGGTTAAACTGGCCAAAAGGAATGGA	unavailable								3						
VT038865	E	TCGGCTATAGAGAACATATTTTGAAGGCGA	CGATGAATTCGTTATGCACAATCTCTAGA	unavailable								2						
VT038866	E	GCAACACCATCAATCCGTTTTGGG	ATTCCGATAAAGTTTGGGTGTGCGG	unavailable								2						
VT038868	E	TCGAATAAACAGATTCAACAGAGCAGAGG	GCCCAAGTCAACTGGGCTACAAC	unavailable								3						
VT038873	E	CCGCATGGGTAAACAGTGCCTTGA	GTCTCGCACCATCGGCATCTGAAT	JRC					BDSC	JRC		2						
VT038874	E	CGATCAACCACAAAGTGGTGCAAG	GGTTGTAATGCAAGAGCGAGTCTGA	unavailable								3						
VT038875	E	TGAATAATGCACTGCACTTTGCCCTT	TCACATCTTTCTGATTGCGCTACG	unavailable								2						
VT038876	E	TGTTTCGACGCTAAAAAGCACAACAA	AGGATCGATTGCTCCAGCTACCA	unavailable								2						
VT038877	E	CTGGGGCTGATGAGGATGTTGAATG	GCTGCTGCTGGGATGCTCTT	unavailable								2						
VT038884	E	TGTTGAAGAATCGCTGCTTTATGTATGAATGT	GGCAAGTTGCAAGCAGAAAAGCTC	JRC								3						
VT038885	R	CGTTTATATACTGCAAGTCTCGCTAAATTCGTCT	TCTGATCTCCAAAAGCGGAAGTGA	JRC					BDSC			3						
VT038886	E	CTCTGATTTGTTAACTGCTTTCAACCGGA	CGTTGGCAAACCTAGAGGAATCCACCTT	JRC					BDSC							2	2	2
VT038892	E	ATTGTTTGTCTGCGCTCCACACC	GGGATTTCCTTCTCTCTGCTCTCA				JRC						2					
VT038902	E	TGGAACCATTCCTCTCTGTAAGGCG	CCACAAAACAGTAGCAGCTCCAGCA				JRC											
VT038933	E	TCGACGCCATCTCTTCGGGGCA	TTCTCTAAAATATGGGTATAACTCTCAAGGGT				JRC											
VT038939	E	aaacgaaccgaacgaacgaacgaacCA	GCCATTCTGCCATACACATCTCA	unavailable			JRC					2						

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VT046783	E	TCACAAATTAACGTCAGCTGTGTAATTCAC	TGGCAAGATTTCGGAAAGTTATTACAAGA	unavailable		JRC					3			2				
VT046784	E	CAACAAAAAGCGCGGAAACAATGAG	CGTCGGTAGTGATTGTGATTATTTCGGG	unavailable							3							
VT046785	E	GACTCAAGATTTCGCCACGAAGCG	aaagGGAAACAACAAGCGCAACAA	unavailable		unavailable	BDSC		BDSC				2		4		2	
VT046786	E	ACGTTGCAGGATCAGCAGGACTCAGG	GCAATGGTAGTGGTGAAGCCTCTTTGGA	unavailable							2							
VT046787	E	GGACGCGTGTGTATACGGTGTGCTT	CGGTATTCTAAATGGCCTCCCCAG	unavailable							4							
VT046788	E	TACGGACAAACTGGGCGGGA	TGCTTCTGACACTGCCTGAAAGATGA	unavailable							3							
VT046790	E	TCACATTCAAGAAATGTGTTTAATGCAAA	ACCCGATTTTTTCATGGGTGCAAAAG	unavailable							2							
VT046791	E	CGCCAAATCGCTGCAGATTCTGTTA	TGGGGCTCGGTTTTAGTCAAGTC	unavailable							6							
VT046792	E	AGATGCTCTTAGCAGATTATCAAGTGCAAATG	TAAGTCAGCGAAACTCGAGCAAAAA	JRC	unavailable		BDSC	JRC	BDSC	3		2			2		2	
VT046793	E	CCGGTTAAACACTCACGTGTCACG	GGCTATGATTATCTTGGATGCAACTATCG	unavailable							3							
VT046795	E	TCAATGGACCGGAAGTGTGTGGC	CTGCTGATGTTCGGGGTTGAGGATGT	JRC	unavailable	unavailable	BDSC		BDSC	3		2		2	2		2	
VT046796	E	TTAGCTTCAGGTGGGCTTTTCGAGG	TGGATGAGCGCCAGTAGAGTCGAG	unavailable							4			2				
VT046799	E	CATGTAGAGTGGCAGTCATTGAAGAGG	CAGGAGCCAAGGAAGCAGCGATTATT	JRC		JRC			BDSC	1								
VT046800	E	GCAGATCATCTGTCAACTGTGGGGG	TACTTCGAGAAATTCGCCAGACCA	unavailable		JRC					3		2					2
VT046801	E	CCACGTCCAGCTGTCCGAACTTTA	CCTTACGAAATGAGCCCGTTCAGC	unavailable							3							
VT046802	E	AAGCGATGAGAAATCGGAATGGGA	ACCATTGAGTCCGGCAAGCGAAG	unavailable							2							
VT046803	E	AGCGACAAAGCAATTCACGCTGCAT	CGAATATTTGTAGAAAACTCCCAACAGAAAA	unavailable							3							
VT046805	E	TCGCAATTTCGGTAAGGGGTACATCA	GGAGAAACAACAAGCAGCAAGCCAG	JRC	unavailable		BDSC	JRC			4		2		2		2	
VT046806	E	TGTGCCCTCTGGCCAATTTTATATCC	GAAAAACCCACCCAAAGCGGT	unavailable							3							
VT046807	E	CGGTTTCTGTAGCCGCTTCCTTTC	ATTGTTGAAATTCGCTAGGGGGCG	unavailable							3							
VT046808	E	CCCCGTTGCTGTGTTGCTCCTAT	CGAGAAGCTGGGGAAATCATC	JRC					BDSC	3								
VT046809	E	TTGAGCCATTTCATTGGGTCTTTC	CGCTTCTTCGCTTACTACACACA	JRC	unavailable		BDSC		BDSC	2								
VT046812	E	TGATTTGTCTGTCTCTGCTGCTC	GGCCAGTCTGTTGGGCTGAGTT	unavailable		JRC												
VT046814	E	AGTGTGCGTGTCCAGGGATTAGGGT	CTCAGCACCTCGGCCATCTTC	unavailable							3			3				
VT046815	E	AGCCCCACTGCACGGCTACT	TTGCTGTTATTGTTCCTCTGGT	unavailable							2							
VT046821	E	GGCGGCTCCAGTCAGACTCCCT	TCTCGGTTAGATTGTAGATTTCCTGGC	JRC	JRC	unavailable	JRC	unavailable	BDSC	JRC	BDSC	6	4	2	2	6	2	2
VT046822	E	TGCAGTGTTCAGCAAAATGATGCG	CAGTGAATGGATTGGATTGGCTTG	unavailable			JRC				4			2				
VT046823	E	AATCGTGAAGTGGAGATGTGGGAG	CAAAATAAAATCAGAAAAATCGAAAGGATAAC											2				
VT046826	E	TCCGGCGAATTCAGCATTTAT	GTTCAAGGTTGCACACATGGGCGTG	JRC							2							
VT046827	E	CCCCCAAAACCTTCACCTCGC	TGAGTTTGCTCTTTGTTTGGTGT	unavailable							6							
VT046828	E	TGGTTCAACATTCAGTCGACACATGA	ATTGAGGGAACGGGAGTGGCAAG	unavailable					BDSC		6							
VT046830	E	ATCAACCGGATGTTCCGGAATGAA	CACGCTCAATTACACAGGAAGCAGAA	unavailable							2							
VT046831	E	GCGCAGAAAAGGCGAAACACTGA	TCATCTCGAATGCTTAAACCGGA	JRC					BDSC		4				2			

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