

Additional Table 1 SNP genotyping of 31 F₂s and their parental lines with the barley 50k iSelect SNP Array. G-1 to G-16 are F₂s with normal phenotype, and g-1 to g-15 are variegated F₂s. Genotypes for called SNPs were converted to the codes of pink “A”, green “B”, yellow “H” and blank “-”. The WT parent Bowman confers the pink ‘A’ genotype, “B” for the mutant BW397, “H” for heterozygous, and missing data as “-”. The flanking SNPs, JHI-Hv50k-2016-139629 and JHI-Hv50k-2016-142540, were highlighted in yellow.

[illegible]

29443	JHI-HV50k-2016-422535	6H	557893162	A	B	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	H	B	H	H
29447	JHI-HV50k-2016-422591	6H	557943249	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	H	B	H	H	
29457	JHI-HV50k-2016-422808	6H	558862422	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	H	B	H	H	
29459	JHI-HV50k-2016-422846	6H	558879662	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	H	B	H	H	
29461	JHI-HV50k-2016-422872	6H	558898803	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	H	B	H	H	
29465	JHI-HV50k-2016-422880	6H	558900127	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	H	B	H	H	
29468	JHI-HV50k-2016-422903	6H	558902973	A	B	-	A	B	B	A	A	B	-	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	H	B	H	H	
29469	JHI-HV50k-2016-422908	6H	558904232	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	H	B	H	H	
29473	JHI-HV50k-2016-422951	6H	559351030	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	H	B	H	H	
29487	JHI-HV50k-2016-423202	6H	559840153	A	B	H	-	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29501	JHI-HV50k-2016-423487	6H	560055085	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29503	JHI-HV50k-2016-423501	6H	560159376	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29505	JHI-HV50k-2016-423519	6H	560435971	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29507	JHI-HV50k-2016-423538	6H	560439822	A	B	-	A	B	B	A	A	B	-	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29508	JHI-HV50k-2016-423565	6H	560541926	A	B	H	A	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29550	JHI-HV50k-2016-423779	6H	561583542	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29551	JHI-HV50k-2016-423785	6H	561584301	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29582	JHI-HV50k-2016-423905	6H	561742405	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29583	JHI-HV50k-2016-423909	6H	561742550	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29586	JHI-HV50k-2016-423940	6H	561761777	A	B	-	-	B	B	A	A	B	-	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29587	JHI-HV50k-2016-423941	6H	561761833	A	B	-	-	B	B	A	A	B	-	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29593	JHI-HV50k-2016-423994	6H	561807689	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29595	JHI-HV50k-2016-424025	6H	561832544	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29596	JHI-HV50k-2016-424039	6H	561880058	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29608	JHI-HV50k-2016-424128	6H	562088044	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29610	JHI-HV50k-2016-424167	6H	562232518	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H
29611	JHI-HV50k-2016-424169	6H	562232774	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29614	JHI-HV50k-2016-424195	6H	562349621	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29616	JHI-HV50k-2016-424200	6H	562681018	A	B	B	B	B	B	H	A	B	B	B	B	H	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	
29617	JHI-HV50k-2016-424223	6H	562713602	A	B	A	A	B	B	A	A	B	A	H	A	H	B	-	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H	
29623	JHI-HV50k-2016-424281	6H	562812551	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H	
29625	JHI-HV50k-2016-424286	6H	562812780	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29626	JHI-HV50k-2016-424294	6H	562813492	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29629	JHI-HV50k-2016-424307	6H	562815874	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29633	JHI-HV50k-2016-424341	6H	562861599	A	B	A	A	B	-	A	A	-	A	-	A	A	A	A	-	A	A	A	A	A	A	A	-	A	A	A	B	A	-	A	A		
29637	JHI-HV50k-2016-424367	6H	562864810	A	B	H	H	B	B	A	A	B	H	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	H	H	B	B	B	B	H	H	
29832	JHI-HV50k-2016-426124	6H	566296188	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29833	JHI-HV50k-2016-426130	6H	566296566	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29834	JHI-HV50k-2016-426132	6H	566296744	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29836	JHI-HV50k-2016-426157	6H	566410003	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29846	JHI-HV50k-2016-426220	6H	566446968	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	B	H	H
29848	JHI-HV50k-2016-426232	6H	566449245	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29849	JHI-HV50k-2016-426238	6H	566450183	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29851	JHI-HV50k-2016-426248	6H	566452504	A	B	-	H	B	B	A	H	B	-	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H
29852	JHI-HV50k-2016-426271	6H	566540056	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29853	JHI-HV50k-2016-426273	6H	566540122	A	B	-	B	B	B	A	A	B	-	B	A	A	B	A	B	A	B	A	A	A	A	A	A	B	A	A	A	B	A	B	B	A	
29855	JHI-HV50k-2016-426290	6H	566731846	A	B	-	H	B	B	A	H	B	B	B	H	A	H	B	H	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29857	JHI-HV50k-2016-426294	6H	566738505	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29858	JHI-HV50k-2016-426297	6H	566738797	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29861	JHI-HV50k-2016-426315	6H	566837370	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29874	JHI-HV50k-2016-426443	6H	567207922	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29875	JHI-HV50k-2016-426445	6H	567207933	A	B	H	H	B	B	A	H	-	H	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	B	B	B	H	H
29876	JHI-HV50k-2016-426446	6H	567208083	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29891	JHI-HV50k-2016-426538	6H	567505877	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B	B	H	H
29892	JHI-HV50k-2016-426561	6H	567509445	A	B	H	H	B	B	A	H	B	B	H	A	H	B	H	B	B	H	H	A	H	H	A	H	B	A	A	H	H	B	B			

29996	JHI-HV50k-2016-427711	6H	571458964	A	B	B	H	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	B	H
29997	JHI-HV50k-2016-427714	6H	571459044	A	B	B	H	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30002	JHI-HV50k-2016-427749	6H	571737763	A	B	B	-	-	B	B	A	B	B	-	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30003	JHI-HV50k-2016-427750	6H	571737853	A	B	B	H	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30009	JHI-HV50k-2016-427793	6H	571848152	A	B	B	H	B	B	B	A	B	B	-	B	H	A	H	B	B	-	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H
30011	JHI-HV50k-2016-427840	6H	571851645	A	B	B	H	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30013	JHI-HV50k-2016-427860	6H	571852785	A	B	B	H	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30014	JHI-HV50k-2016-427866	6H	571853081	A	B	B	H	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30015	JHI-HV50k-2016-427882	6H	571854072	A	B	B	H	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30020	JHI-HV50k-2016-427996	6H	571876866	A	B	B	H	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30067	JHI-HV50k-2016-428483	6H	573491584	A	B	B	B	-	B	B	A	B	B	-	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30069	JHI-HV50k-2016-428502	6H	573494500	A	B	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30075	JHI-HV50k-2016-428596	6H	573554947	A	B	B	-	-	B	B	A	B	B	-	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30077	JHI-HV50k-2016-428609	6H	573557430	A	B	B	-	H	B	B	A	B	B	H	B	-	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30081	JHI-HV50k-2016-428664	6H	573640547	A	B	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30082	JHI-HV50k-2016-428706	6H	573659868	A	B	B	-	-	B	B	A	B	B	-	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30085	JHI-HV50k-2016-428726	6H	573681477	A	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30086	JHI-HV50k-2016-428741	6H	574032439	A	B	B	B	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30089	JHI-HV50k-2016-428780	6H	574041580	A	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30094	JHI-HV50k-2016-428852	6H	574297567	A	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30095	JHI-HV50k-2016-428860	6H	574298460	A	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30100	JHI-HV50k-2016-428906	6H	574783056	A	B	B	-	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30101	JHI-HV50k-2016-428953	6H	574797785	A	B	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30102	JHI-HV50k-2016-428954	6H	574797868	A	B	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30103	JHI-HV50k-2016-428967	6H	574798924	A	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30104	JHI-HV50k-2016-428969	6H	574798999	A	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30105	JHI-HV50k-2016-428970	6H	574799060	A	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30107	JHI-HV50k-2016-429028	6H	575038639	A	B	B	H	B	B	A	B	B	B	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30111	JHI-HV50k-2016-429064	6H	575043042	A	B	B	H	B	B	A	B	B	B	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30112	JHI-HV50k-2016-429066	6H	575043363	A	B	B	H	B	B	A	B	B	B	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30113	JHI-HV50k-2016-429073	6H	575043870	A	B	B	H	B	B	A	B	B	B	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30119	JHI-HV50k-2016-429111	6H	575071173	A	B	B	H	B	B	A	B	B	H	B	H	A	H	B	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30145	JHI-HV50k-2016-429246	6H	575694713	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30146	JHI-HV50k-2016-429248	6H	575694982	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30148	JHI-HV50k-2016-429263	6H	575725411	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30150	JHI-HV50k-2016-429267	6H	575727478	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30153	JHI-HV50k-2016-429283	6H	575771599	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30164	JHI-HV50k-2016-429420	6H	575956265	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30171	JHI-HV50k-2016-429466	6H	576405934	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30181	JHI-HV50k-2016-429588	6H	576456100	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30191	JHI-HV50k-2016-429731	6H	576572882	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30193	JHI-HV50k-2016-429778	6H	576599864	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30204	JHI-HV50k-2016-430017	6H	576878902	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30205	JHI-HV50k-2016-430051	6H	576920616	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30206	JHI-HV50k-2016-430056	6H	576922058	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30207	JHI-HV50k-2016-430061	6H	576928027	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30208	JHI-HV50k-2016-430063	6H	576951197	A	B	B	-	-	B	B	A	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30211	JHI-HV50k-2016-430098	6H	576953024	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30213	JHI-HV50k-2016-430149	6H	577100969	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30220	JHI-HV50k-2016-430267	6H	577459725	A	B	B	-	H	B	B	A	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30221	JHI-HV50k-2016-430284	6H	577460714	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30222	JHI-HV50k-2016-430310	6H	577493246	A	B	B	B	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30223	JHI-HV50k-2016-430383	6H	577508068	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30224	JHI-HV50k-2016-430387	6H	577508163	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30228	JHI-HV50k-2016-430508	6H	577602295	A	B	B	H	B	B	A	B	B	B	B	H	A	H	H	H	B	H	B	B	A	H	H	H	A	B	H	H	H	B	H	B	H	
30236	JHI-HV50k-2016-430641	6H	577769942	A	B	B	-	-	B																												

4048	JHI-HV50k-2016-116368	2H	695914177	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	A	A	B	B	B	B	A	H	B	
4049	JHI-HV50k-2016-116370	2H	695914492	A	B	H	-	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4050	JHI-HV50k-2016-116372	2H	695914546	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4051	JHI-HV50k-2016-116382	2H	695915385	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4052	JHI-HV50k-2016-116384	2H	695915844	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4053	JHI-HV50k-2016-116385	2H	695915927	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4054	JHI-HV50k-2016-116386	2H	695916029	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4056	JHI-HV50k-2016-116398	2H	695916885	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4058	JHI-HV50k-2016-116420	2H	696110823	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4062	JHI-HV50k-2016-116440	2H	696117835	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4064	JHI-HV50k-2016-116466	2H	696239880	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4065	JHI-HV50k-2016-116473	2H	696240323	A	B	-	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4068	JHI-HV50k-2016-116509	2H	696276851	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4070	JHI-HV50k-2016-116511	2H	696276957	A	B	H	B	A	A	B	-	A	H	H	H	-	A	B	B	H	H	B	-	B	H	B	B	A	A	B	B	B	B	A	-	B
4073	JHI-HV50k-2016-116577	2H	696377440	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4075	JHI-HV50k-2016-116581	2H	696377994	A	B	A	B	A	A	B	H	A	A	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4083	JHI-HV50k-2016-116726	2H	696711104	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4086	JHI-HV50k-2016-116742	2H	696714683	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4115	JHI-HV50k-2016-116997	2H	697332068	A	B	-	B	A	A	B	H	A	-	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4118	JHI-HV50k-2016-117034	2H	697738222	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4121	JHI-HV50k-2016-117042	2H	697863936	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4122	JHI-HV50k-2016-117060	2H	698145743	A	B	H	B	A	A	B	H	A	-	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4123	JHI-HV50k-2016-117081	2H	698149037	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4124	JHI-HV50k-2016-117083	2H	698149081	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4125	JHI-HV50k-2016-117094	2H	698165680	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4126	JHI-HV50k-2016-117109	2H	698220223	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4127	JHI-HV50k-2016-117112	2H	698220684	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4128	JHI-HV50k-2016-117115	2H	698221586	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4130	JHI-HV50k-2016-117161	2H	698231071	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4131	JHI-HV50k-2016-117163	2H	698231321	A	B	-	-	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4132	JHI-HV50k-2016-117164	2H	698231808	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4133	JHI-HV50k-2016-117169	2H	698314408	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4134	JHI-HV50k-2016-117172	2H	698314685	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4135	JHI-HV50k-2016-117173	2H	698314819	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4136	JHI-HV50k-2016-117180	2H	698441945	A	B	H	-	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4137	JHI-HV50k-2016-117191	2H	698446413	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4138	JHI-HV50k-2016-117193	2H	698446596	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4140	JHI-HV50k-2016-117198	2H	698617643	A	B	B	-	A	A	-	B	A	B	B	B	B	A	-	-	B	B	-	B	-	B	-	A	A	-	-	-	-	A	B	-	
4141	JHI-HV50k-2016-117210	2H	698668368	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4142	JHI-HV50k-2016-117213	2H	698668470	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4143	JHI-HV50k-2016-117256	2H	698732703	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4144	JHI-HV50k-2016-117277	2H	698876917	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4145	JHI-HV50k-2016-117291	2H	698901314	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4147	JHI-HV50k-2016-117324	2H	698913966	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4148	JHI-HV50k-2016-117333	2H	698915052	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4149	JHI-HV50k-2016-117357	2H	699045160	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4150	JHI-HV50k-2016-117358	2H	699045290	A	B	H	-	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4152	JHI-HV50k-2016-117361	2H	699045973	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4157	JHI-HV50k-2016-117430	2H	699224738	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4159	JHI-HV50k-2016-117432	2H	699225013	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4163	JHI-HV50k-2016-117483	2H	699323828	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4164	JHI-HV50k-2016-117487	2H	699323903	A	B	H	B	A	A	B	H	-	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4165	JHI-HV50k-2016-117491	2H	699324125	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4170	JHI-HV50k-2016-117510	2H	699438244	A	B	H	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4171	JHI-HV50k-2016-117516	2H	699438832	A	B	-	B	A	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4172	JHI-HV50k-2016-117529	2H	699445006	A	B	-	H	A	A	B	-	A																								

4378	JHI-HV50k-2016-119675	2H	705821670	A	B	H	-	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	H	B	B	A	A	B	B	B	B	A	H	B
4380	JHI-HV50k-2016-119679	2H	705822095	A	B	H	B	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4385	JHI-HV50k-2016-119762	2H	706344848	A	B	H	B	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4386	JHI-HV50k-2016-119765	2H	706345003	A	B	H	B	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4390	JHI-HV50k-2016-119806	2H	706349667	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4391	JHI-HV50k-2016-119817	2H	706350794	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4394	JHI-HV50k-2016-119870	2H	706465401	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4395	JHI-HV50k-2016-119891	2H	706466669	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4396	JHI-HV50k-2016-119963	2H	706471431	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4397	JHI-HV50k-2016-120039	2H	706577697	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4402	JHI-HV50k-2016-120091	2H	706918860	A	B	H	H	H	A	B	H	A	H	H	H	-	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4403	JHI-HV50k-2016-120111	2H	706924133	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4404	JHI-HV50k-2016-120115	2H	706965887	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4406	JHI-HV50k-2016-120125	2H	706966793	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4407	JHI-HV50k-2016-120127	2H	706966891	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4408	JHI-HV50k-2016-120140	2H	707024719	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4410	JHI-HV50k-2016-120147	2H	707025337	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4413	JHI-HV50k-2016-120195	2H	707266950	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4414	JHI-HV50k-2016-120204	2H	707313282	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4415	JHI-HV50k-2016-120234	2H	707380076	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4416	JHI-HV50k-2016-120235	2H	707380176	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4417	JHI-HV50k-2016-120240	2H	707380483	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4418	JHI-HV50k-2016-120244	2H	707380769	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4424	JHI-HV50k-2016-120297	2H	707543879	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	H	A	A	B	B	B	B	A	H	B
4426	JHI-HV50k-2016-120326	2H	707561944	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4427	JHI-HV50k-2016-120328	2H	707562068	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4428	JHI-HV50k-2016-120332	2H	707563895	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4430	JHI-HV50k-2016-120355	2H	707586303	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4431	JHI-HV50k-2016-120359	2H	707587149	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4432	JHI-HV50k-2016-120415	2H	707593145	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	H	A	A	B	B	B	B	A	H	B
4433	JHI-HV50k-2016-120481	2H	707642558	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	H	A	A	B	B	B	B	A	H	B
4434	JHI-HV50k-2016-120483	2H	707642824	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4435	JHI-HV50k-2016-120485	2H	707643181	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4439	JHI-HV50k-2016-120517	2H	707900151	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4440	JHI-HV50k-2016-120518	2H	707901009	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4445	JHI-HV50k-2016-120547	2H	708177094	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4446	JHI-HV50k-2016-120557	2H	708178074	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4447	JHI-HV50k-2016-120563	2H	708178916	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4448	JHI-HV50k-2016-120601	2H	708242441	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4449	JHI-HV50k-2016-120638	2H	708253708	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4452	JHI-HV50k-2016-120646	2H	708254136	A	B	-	-	H	A	B	H	A	-	H	-	H	A	B	B	H	H	B	H	B	B	B	H	A	A	B	B	B	B	A	H	B
4454	JHI-HV50k-2016-120657	2H	708264860	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	H	A	A	B	B	B	B	A	H	B
4455	JHI-HV50k-2016-120660	2H	708265201	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4456	JHI-HV50k-2016-120665	2H	708297320	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4457	JHI-HV50k-2016-120666	2H	708297390	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4459	JHI-HV50k-2016-120710	2H	708562737	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4460	JHI-HV50k-2016-120714	2H	708562893	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4461	JHI-HV50k-2016-120715	2H	708562971	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4462	JHI-HV50k-2016-120716	2H	708563063	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4465	JHI-HV50k-2016-120721	2H	708564863	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4466	JHI-HV50k-2016-120736	2H	708568324	A	B	B	B	H	A	B	H	B	B	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4467	JHI-HV50k-2016-120766	2H	708637249	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4468	JHI-HV50k-2016-120770	2H	708638025	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4472	JHI-HV50k-2016-120806	2H	708849240	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4473	JHI-HV50k-2016-120816	2H	708860425	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B	H	B	B	B	B	A	A	B	B	B	B	A	H	B
4474	JHI-HV50k-2016-120824	2H	708863067	A	B	H	H	H	A	B	H	A	H	H	H	H	A	B	B	H	H	B</														

4618	JHI-HV50k-2016-122998	2H	713067811	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	H	B	B	B	A	B	B		
4619	JHI-HV50k-2016-123005	2H	713068606	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4623	JHI-HV50k-2016-123148	2H	713112775	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4626	JHI-HV50k-2016-123263	2H	713241243	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4627	JHI-HV50k-2016-123277	2H	713242767	A	B	H	-	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4628	JHI-HV50k-2016-123289	2H	713244177	A	B	H	H	H	A	B	H	-	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4632	JHI-HV50k-2016-123547	2H	713704109	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4634	JHI-HV50k-2016-123572	2H	713705537	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4635	JHI-HV50k-2016-123575	2H	713705899	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4636	JHI-HV50k-2016-123576	2H	713706115	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4638	JHI-HV50k-2016-123652	2H	713744262	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	H	B	A	B	B	
4640	JHI-HV50k-2016-123656	2H	713744449	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4642	JHI-HV50k-2016-123719	2H	713774679	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	B	H	B	B	A	B	B	
4644	JHI-HV50k-2016-123739	2H	713775521	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	H	H	B	A	B	B	
4645	JHI-HV50k-2016-123752	2H	713776257	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	B	H	B	B	A	B	B	
4646	JHI-HV50k-2016-123834	2H	713820081	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4648	JHI-HV50k-2016-123879	2H	713827336	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4649	JHI-HV50k-2016-123897	2H	713834634	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	H	B	B	B	A	B	B	
4651	JHI-HV50k-2016-123949	2H	713936402	A	B	H	H	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4653	JHI-HV50k-2016-124029	2H	714019955	A	B	-	A	H	A	B	H	A	H	A	H	H	A	B	H	H	H	B	H	B	B	B	H	B	B	A	B	B	
4654	JHI-HV50k-2016-124035	2H	714020215	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4676	JHI-HV50k-2016-124316	2H	715074726	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4680	JHI-HV50k-2016-124342	2H	715157930	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4681	JHI-HV50k-2016-124347	2H	715160155	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4682	JHI-HV50k-2016-124349	2H	715160995	A	B	-	-	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4696	JHI-HV50k-2016-124483	2H	715795276	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4697	JHI-HV50k-2016-124484	2H	715795335	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4698	JHI-HV50k-2016-124491	2H	715917424	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4699	JHI-HV50k-2016-124521	2H	715920425	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4700	JHI-HV50k-2016-124532	2H	715920707	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4702	JHI-HV50k-2016-124551	2H	715925315	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4703	JHI-HV50k-2016-124562	2H	715933490	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4704	JHI-HV50k-2016-124571	2H	715935074	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4705	JHI-HV50k-2016-124572	2H	715935412	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4706	JHI-HV50k-2016-124604	2H	715950439	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4707	JHI-HV50k-2016-124612	2H	715951234	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4710	JHI-HV50k-2016-124640	2H	716128315	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4712	JHI-HV50k-2016-124830	2H	716364517	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4713	JHI-HV50k-2016-124833	2H	716364887	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4714	JHI-HV50k-2016-124850	2H	716369087	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4715	JHI-HV50k-2016-124888	2H	716478426	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4717	JHI-HV50k-2016-124924	2H	716482621	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4718	JHI-HV50k-2016-124927	2H	716482753	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4719	JHI-HV50k-2016-124930	2H	716482911	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4720	JHI-HV50k-2016-124972	2H	716589500	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4721	JHI-HV50k-2016-124974	2H	716589685	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4722	JHI-HV50k-2016-125036	2H	716823146	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4723	JHI-HV50k-2016-125068	2H	716825008	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4726	JHI-HV50k-2016-125083	2H	716825943	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4727	JHI-HV50k-2016-125086	2H	716826139	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4734	JHI-HV50k-2016-125295	2H	717372118	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4735	JHI-HV50k-2016-125298	2H	717372509	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4736	JHI-HV50k-2016-125308	2H	717373243	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4737	JHI-HV50k-2016-125310	2H	717373251	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	H	B	H	B	B	B	B	B	B	A	B	B	
4740	JHI-HV50k-2016-125359	2H	717611197	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	A	B	H	B	B	B	B	B	B	A	B	B	
4741	JHI-HV50k-2016-125366	2H	717611446	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	A	B	H	B	B	B	B	B	B	A	B	B	
4745	JHI-HV50k-2016-125433	2H	717873016	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	A	B	H	B	B	B	B	B	B	A	B	B	
4747	JHI-HV50k-2016-125449	2H	717878049	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	A	B	H	B	B	B	B	B	B	A	B	B	
4748	JHI-HV50k-2016-125451	2H	717878163	A	B	A	A	-	A	B	A	-	A	A	A	A	-	B	A	A	A	B	A	B	A	B	A	A	B	B	-	B	B
4754	JHI-HV50k-2016-125681	2H	718155005	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	A	B	H	B	B	B	B	B	B	A	B	B	
4755	JHI-HV50k-2016-125682	2H	718155064	A	B	H	H	H	A	B	H	H	H	A	H	H	A	B	H	H	A	B	H	B	B	B	B	B	B	A	B	B	
4757	JHI-HV50k-2016-125733																																

5029	JHI-Hv50k-2016-129870	2H	727578152	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5034	JHI-Hv50k-2016-129980	2H	727650034	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5036	JHI-Hv50k-2016-129984	2H	727650229	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5045	JHI-Hv50k-2016-130079	2H	727963299	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5046	JHI-Hv50k-2016-130092	2H	727963982	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5048	JHI-Hv50k-2016-130099	2H	727964558	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5051	JHI-Hv50k-2016-130123	2H	727978235	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5052	JHI-Hv50k-2016-130125	2H	727978317	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5054	JHI-Hv50k-2016-130137	2H	728032722	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5060	JHI-Hv50k-2016-130203	2H	728158952	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5061	JHI-Hv50k-2016-130206	2H	728159388	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5062	JHI-Hv50k-2016-130223	2H	728240034	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5066	JHI-Hv50k-2016-130257	2H	728298636	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5067	JHI-Hv50k-2016-130259	2H	728298775	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5068	JHI-Hv50k-2016-130260	2H	728298989	A	B	B	H	H	H	A	B	H	H	H	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5071	JHI-Hv50k-2016-130387	2H	728830270	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5072	JHI-Hv50k-2016-130389	2H	728830413	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5073	JHI-Hv50k-2016-130413	2H	728831999	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5076	JHI-Hv50k-2016-130469	2H	729140966	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5077	JHI-Hv50k-2016-130522	2H	729159339	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5078	JHI-Hv50k-2016-130575	2H	729210040	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5094	JHI-Hv50k-2016-130645	2H	729224492	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5097	JHI-Hv50k-2016-130683	2H	729229245	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5106	JHI-Hv50k-2016-130757	2H	729294590	A	B	B	B	B	-	A	B	B	B	A	A	B	B	A	B	A	A	A	B	B	B	B	B	B	-	B	B	B	-	B	B
5107	JHI-Hv50k-2016-130764	2H	729295193	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5115	JHI-Hv50k-2016-130854	2H	729542946	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5117	JHI-Hv50k-2016-130867	2H	729558530	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5118	JHI-Hv50k-2016-130920	2H	729727320	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5119	JHI-Hv50k-2016-130926	2H	729750874	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5123	JHI-Hv50k-2016-130949	2H	729841762	A	B	-	-	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	B
5124	JHI-Hv50k-2016-130956	2H	729842319	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5132	JHI-Hv50k-2016-131016	2H	730029363	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5135	JHI-Hv50k-2016-131068	2H	730852717	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5139	JHI-Hv50k-2016-131130	2H	730980511	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5142	JHI-Hv50k-2016-131168	2H	731034043	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5148	JHI-Hv50k-2016-131231	2H	731142957	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5151	JHI-Hv50k-2016-131291	2H	731204776	A	B	B	H	H	H	A	B	H	H	-	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5152	JHI-Hv50k-2016-131292	2H	731204835	A	B	-	-	H	A	B	B	-	-	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	H	B	B	B	H	B	B
5153	JHI-Hv50k-2016-131311	2H	731229343	A	B	A	A	H	A	B	H	-	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	B
5155	JHI-Hv50k-2016-131322	2H	731231115	A	B	B	B	B	A	B	B	B	-	A	B	B	A	B	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5156	JHI-Hv50k-2016-131327	2H	731272759	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5157	JHI-Hv50k-2016-131341	2H	731273583	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5158	JHI-Hv50k-2016-131359	2H	731304950	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5159	JHI-Hv50k-2016-131363	2H	731305353	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5162	JHI-Hv50k-2016-131389	2H	731689387	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5163	JHI-Hv50k-2016-131412	2H	731698236	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5170	JHI-Hv50k-2016-131436	2H	731902187	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5174	JHI-Hv50k-2016-131463	2H	732343812	A	B	-	-	H	A	B	H	H	-	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	B
5175	JHI-Hv50k-2016-131473	2H	732423848	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5181	JHI-Hv50k-2016-131493	2H	732543479	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5187	JHI-Hv50k-2016-131545	2H	732583082	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5189	JHI-Hv50k-2016-131588	2H	732618705	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5190	JHI-Hv50k-2016-131590	2H	732618917	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5191	JHI-Hv50k-2016-131610	2H	732633801	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5197	JHI-Hv50k-2016-131677	2H	732695207	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B
5198	JHI-Hv50k-2016-131682	2H	732697789	A	B	-	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	B
5201	JHI-Hv50k-2016-131709	2H	732702705	A	B	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H		

5333	JHI-HV50k-2016-133076	2H	735390089	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5334	JHI-HV50k-2016-133079	2H	735390155	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5335	JHI-HV50k-2016-133080	2H	735390224	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5338	JHI-HV50k-2016-133112	2H	735404593	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5340	JHI-HV50k-2016-133167	2H	736212969	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	-	B	B	B	B	B	H	B	B	B	H	B	B
5341	JHI-HV50k-2016-133174	2H	736213883	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5342	JHI-HV50k-2016-133181	2H	736214477	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5343	JHI-HV50k-2016-133197	2H	736236666	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5344	JHI-HV50k-2016-133198	2H	736236835	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5345	JHI-HV50k-2016-133208	2H	736245865	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5346	JHI-HV50k-2016-133214	2H	736246745	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5347	JHI-HV50k-2016-133218	2H	736246911	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5352	JHI-HV50k-2016-133293	2H	736369658	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5356	JHI-HV50k-2016-133336	2H	736751512	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5358	JHI-HV50k-2016-133345	2H	736753860	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5361	JHI-HV50k-2016-133390	2H	737026029	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5362	JHI-HV50k-2016-133408	2H	737028354	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5371	JHI-HV50k-2016-133510	2H	737177482	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5373	JHI-HV50k-2016-133573	2H	737639643	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5374	JHI-HV50k-2016-133575	2H	737639735	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5376	JHI-HV50k-2016-133595	2H	737641164	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5377	JHI-HV50k-2016-133604	2H	737641739	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5378	JHI-HV50k-2016-133605	2H	737641821	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5379	JHI-HV50k-2016-133639	2H	737644534	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5380	JHI-HV50k-2016-133655	2H	737645544	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5382	JHI-HV50k-2016-133699	2H	737655839	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5384	JHI-HV50k-2016-133720	2H	737660910	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5389	JHI-HV50k-2016-133808	2H	738054672	A	B	B	B	H	A	B	H	-	H	A	H	H	A	B	-	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5390	JHI-HV50k-2016-133812	2H	738054984	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5394	JHI-HV50k-2016-133841	2H	738326718	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5395	JHI-HV50k-2016-133850	2H	738342065	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5402	JHI-HV50k-2016-133904	2H	738614758	A	B	H	-	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5421	JHI-HV50k-2016-134196	2H	739244211	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5437	JHI-HV50k-2016-134401	2H	739584855	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5438	JHI-HV50k-2016-134432	2H	739588385	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	
5440	JHI-HV50k-2016-134486	2H	739994452	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5441	JHI-HV50k-2016-134491	2H	739994904	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5442	JHI-HV50k-2016-134503	2H	739996053	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5444	JHI-HV50k-2016-134583	2H	740038414	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	-	B	B	
5446	JHI-HV50k-2016-134740	2H	740255609	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5447	JHI-HV50k-2016-134751	2H	740256672	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5448	JHI-HV50k-2016-134802	2H	740414038	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5449	JHI-HV50k-2016-134808	2H	740414463	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5451	JHI-HV50k-2016-134862	2H	740580427	A	B	H	-	H	-	B	H	H	A	A	H	H	A	B	A	-	A	A	B	H	B	B	B	B	B	B	B	H	B	B	
5453	JHI-HV50k-2016-134872	2H	740689110	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5455	JHI-HV50k-2016-134874	2H	740691605	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5459	JHI-HV50k-2016-134947	2H	740892231	A	B	H	-	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5469	JHI-HV50k-2016-135041	2H	740990945	A	B	H	H	H	H	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5472	JHI-HV50k-2016-135056	2H	741019299	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5473	JHI-HV50k-2016-135074	2H	741027234	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5477	JHI-HV50k-2016-135102	2H	741037594	A	B	H	H	H	A	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5479	JHI-HV50k-2016-135143	2H	741100706	A	B	H	H	H	H	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5486	JHI-HV50k-2016-135227	2H	741282855	A	B	-	-	H	H	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5487	JHI-HV50k-2016-135232	2H	741283325	A	B	H	H	H	H	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5488	JHI-HV50k-2016-135316	2H	741603188	A	B	H	H	H	H	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5489	JHI-HV50k-2016-135356	2H	741621918	A	B	H	H	H	H	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5491	JHI-HV50k-2016-135382	2H	741642582	A	B	H	H	H	H	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5494	JHI-HV50k-2016-135426	2H	741978074	A	B	H	H	H	H	B	H	H	A	A	H	H	A	B	A	A	A	B	H	B	B	B	B	B	B	B	B	H	B	B	
5498	JHI-HV50k-2016-135435	2H	741980209	A																															

6068	JHI-Hv50k-2016-143740	2H	758850273	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	B	B	B	B	B
6071	JHI-Hv50k-2016-143807	2H	759011046	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	B	B	B	B	B
6079	JHI-Hv50k-2016-143888	2H	759146844	A	B	H	H	H	H	H	H	A	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	B	B	B	B	B
6081	JHI-Hv50k-2016-143890	2H	759147805	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	B	B	B	B	B
6082	JHI-Hv50k-2016-143904	2H	759162859	A	B	H	H	H	H	H	H	A	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	B	B	B	B	B
6086	JHI-Hv50k-2016-143975	2H	759281895	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6088	JHI-Hv50k-2016-144034	2H	759353476	A	B	H	H	H	H	H	H	A	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6091	JHI-Hv50k-2016-144078	2H	759410855	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6092	JHI-Hv50k-2016-144152	2H	759744360	A	B	H	H	H	H	H	H	A	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6095	JHI-Hv50k-2016-144232	2H	759828120	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6096	JHI-Hv50k-2016-144285	2H	759833421	A	B	H	H	H	H	H	H	A	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6098	JHI-Hv50k-2016-144336	2H	760023947	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6099	JHI-Hv50k-2016-144340	2H	760024020	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6100	JHI-Hv50k-2016-144342	2H	760024173	A	B	H	H	H	H	H	H	A	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6102	JHI-Hv50k-2016-144507	2H	760139195	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6104	JHI-Hv50k-2016-144573	2H	760184175	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6108	JHI-Hv50k-2016-144755	2H	760725412	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6112	JHI-Hv50k-2016-144805	2H	760752999	A	B	H	H	H	H	H	H	H	-	A	H	H	A	H	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	B
6114	JHI-Hv50k-2016-144813	2H	760753473	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6117	JHI-Hv50k-2016-144820	2H	760762651	A	B	H	H	H	H	H	H	-	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6125	JHI-Hv50k-2016-144957	2H	760935265	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6129	JHI-Hv50k-2016-145116	2H	761107172	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6130	JHI-Hv50k-2016-145127	2H	761107447	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6132	JHI-Hv50k-2016-145133	2H	761107635	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6134	JHI-Hv50k-2016-145354	2H	761264461	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6136	JHI-Hv50k-2016-145476	2H	761299191	A	B	H	H	-	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6143	JHI-Hv50k-2016-145572	2H	761327647	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6154	JHI-Hv50k-2016-145709	2H	761623717	A	B	H	H	H	H	H	H	B	A	H	H	A	H	A	A	A	B	B	B	B	B	H	B	B	B	H	B	B	B	H
6167	JHI-Hv50k-2016-146031	2H	762527829	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6168	JHI-Hv50k-2016-146053	2H	762651967	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6169	JHI-Hv50k-2016-146123	2H	762708157	A	B	H	H	-	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6179	JHI-Hv50k-2016-146318	2H	762989792	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6181	JHI-Hv50k-2016-146344	2H	762992556	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	-
6187	JHI-Hv50k-2016-146702	2H	763551936	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6189	JHI-Hv50k-2016-146783	2H	763961505	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6197	JHI-Hv50k-2016-146921	2H	764279786	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6202	JHI-Hv50k-2016-147075	2H	764420583	A	B	H	H	H	H	H	A	B	H	O583	A	H	A	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	H
6203	JHI-Hv50k-2016-147080	2H	764421012	A	B	A	A	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	B	H	B	B	B	H	B	B	H
6204	JHI-Hv50k-2016-147100	2H	764424264	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6205	JHI-Hv50k-2016-147120	2H	764591208	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6206	JHI-Hv50k-2016-147130	2H	765154930	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6207	JHI-Hv50k-2016-147162	2H	765158515	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6208	JHI-Hv50k-2016-147165	2H	765158629	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6211	JHI-Hv50k-2016-147190	2H	765606488	A	B	B	B	H	H	A	B	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6212	JHI-Hv50k-2016-147195	2H	765607602	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6213	JHI-Hv50k-2016-147197	2H	765607788	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6214	JHI-Hv50k-2016-147198	2H	765607875	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6215	JHI-Hv50k-2016-147217	2H	765618608	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6218	JHI-Hv50k-2016-147265	2H	765631993	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6219	JHI-Hv50k-2016-147293	2H	765637478	A	B	H	H	H	H	H	A	B	H	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6223	JHI-Hv50k-2016-147337	2H	765722661	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6225	JHI-Hv50k-2016-147392	2H	765754276	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6226	JHI-Hv50k-2016-147394	2H	765754346	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6227	JHI-Hv50k-2016-147420	2H	765910664	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6234	JHI-Hv50k-2016-147621	2H	766081896	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6238	JHI-Hv50k-2016-147709	2H	766101130	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6246	JHI-Hv50k-2016-147863	2H	766950959	A	B	H	H	H	H	H	A	B	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6254	JHI-Hv50k-2016-147952	2H	767057095	A	B	A	A	H	H	H	A	H	A	H	H	A	H	A	A	A	B	H	B	B	B	H	B	B	B	H	B	B	B	H
6255	JHI-Hv50k-2016-147953	2H	767057612	A	B	H	H	H	H</																									

Additional Table 2. Primers used for the analysis of HvPTOX alleles.

Primer name	Sequence
F1	CCAGCTCCAGAGGTGGCTGT
F2	CGCTCCCGACGACAAAACA
F3	TGTCAGGCGTTGGGTGGCAA
F4	TTTCGAATAACGCCGCCTCT
F5	GTAGGCTCGGCATGAGACAA
R1	CAGCGCTCTAGCACGGAGGT
R2	TGTTTTGTCGTCGGGAGCG
R3	CATATGCCTGGTGCTACCGA