SHITOMASI BRISK BRIEF ORB n KP detec ms Matched pts descms Matched pts descms Matched pts 125 42,0977 1,77734 1,08766 1 120 28,64 80 2,7345 104 3,51627 9 120 28,64 80 2,7345 104 3,51627 9 120 21,8177 90 2,7188 101 2,82316 103 113 31,3984 82 4,13463 102 2,4285 102 114 28,6932 79 2,55996 85 2,6597 100 3,15576 98 112 23,609 82 2,52765 100 2,3066 97 HARRIS BRISK BRISK BRIEF ORB 17 28,3792 10 2,0982 1 1,9465 12 18 32,7942 10 2,20982 11 2,10985 12 18 <th>Column1</th> <th>Column2</th> <th>Column3</th> <th>Column4</th> <th>Column5</th> <th>Column6</th> <th>Column7</th>	Column1	Column2	Column3	Column4	Column5	Column6	Column7
125							
125	n KP	detec ms		desc ms	Matched pts	desc ms	Matched pts
123 27,8315 88 2,69764 111 2,29353 102 120 28,64 80 2,73345 104 3,51627 99 120 21,8177 90 2,7138 101 2,82316 103 113 31,3984 82 4,13463 102 2,4285 102 114 28,6932 79 2,55989 102 2,86796 97 123 22,5906 85 2,6597 100 3,15556 98 111 19,5002 86 2,53776 109 1,95042 104 112 23,609 82 2,52265 100 2,3066 97 HARRIS Matched pts desc ms Matched pts 6sc ms Matched pts 17 28,3792 0,589355 0,57529 14 3,9465 12 18 32,7942 10 2,20982 11 2,10985 12 21 30,7491 14 1,79599	125	42,0977	·	1,77734	·	1,08766	·
120	118	26,3241	95		115		106
120	123	27,8315	88	2,69764	111	2,29353	102
113 31,3984 82 4,13463 102 2,4285 102 114 28,6932 79 2,55989 102 2,86796 97 123 22,5906 85 2,6597 100 3,15556 98 111 19,5002 86 2,53776 109 1,95042 104 112 23,609 82 2,52265 100 2,3066 97 HARRIS BRISK BRISK BRISK BRISK ORB NKP detec ms Matched pts desc ms Matched pts 17 28,3792 0,589355 0,57529 14 32,6843 12 1,40593 14 1,9465 12 18 32,7942 10 2,20982 11 2,10865 12 18 33,8281 15 1,86525 20 2,2 18 43 59,2363 16 1,34164 24 1,94202 24 24 13 3,6766 31,6786 23 1,65624	120	28,64	80	2,73345	104	3,51627	99
114 28,6932 79 2,55989 102 2,86796 97 123 22,5906 85 2,6597 100 3,15556 98 111 19,5002 86 2,53776 109 1,95042 104 112 23,609 82 2,52265 100 2,3066 97 HARRIS BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts	120	21,8177	90	2,7188	101	2,82316	103
123	113	31,3984	82	4,13463	102	2,4285	102
111 19,5002 86 2,53776 109 1,95042 104 112 23,609 82 2,52265 100 2,3066 97 HARRIS BRISK BRISF ORB n KP detec ms Matched pts desc ms Matched pts 17 28,3792 0,589355 0,57529 14 32,6843 12 1,40593 14 1,9465 12 18 32,7942 10 2,20982 11 2,10985 12 21 30,7491 14 1,79599 15 7,12934 15 26 33,8281 15 1,86525 20 2,2 18 43 59,2363 16 1,34164 24 1,94202 24 18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 76ST BRISK BRISK BRIEF	114	28,6932	79	2,55989	102	2,86796	97
112	123	22,5906	85	2,6597	100	3,15556	98
HARRIS BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 17 28,3792 0,589355 0,57529 0,57529 14 32,6843 12 1,40593 14 1,9465 12 18 32,7942 10 2,20982 11 2,10985 12 21 30,7491 14 1,79599 15 7,12934 15 26 33,8281 15 1,86525 20 2,2 18 43 59,2363 16 1,34164 24 1,94202 24 18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 42,9805 21 1,91658 23 1,98245 22 FAST BRISK </td <td>111</td> <td>19,5002</td> <td>86</td> <td>2,53776</td> <td>109</td> <td>1,95042</td> <td>104</td>	111	19,5002	86	2,53776	109	1,95042	104
n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 17 28,3792 0,589355 0,57529 14 32,6843 12 1,40593 14 1,9465 12 18 32,7942 10 2,20982 11 2,10985 12 21 30,7491 14 1,79599 15 7,12934 15 26 33,8281 15 1,86525 20 2,2 18 43 59,2363 16 1,34164 24 1,94202 24 18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 42,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB 149 0,963288 2,62316 </td <td>112</td> <td>23,609</td> <td>82</td> <td>2,52265</td> <td>100</td> <td>2,3066</td> <td>97</td>	112	23,609	82	2,52265	100	2,3066	97
17 28,3792 0,589355 0,57529 14 32,6843 12 1,40593 14 1,9465 12 18 32,7942 10 2,20982 11 2,10985 12 21 30,7491 14 1,79599 15 7,12934 15 26 33,8281 15 1,86525 20 2,2 18 43 59,2363 16 1,34164 24 1,94202 24 18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 44 29,805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB ORB n KP detec ms Matched pts desc ms Matched pts desc ms 149 0,963288 <t< td=""><td>HARRIS</td><td></td><td>BRISK</td><td></td><td>BRIEF</td><td></td><td>ORB</td></t<>	HARRIS		BRISK		BRIEF		ORB
14 32,6843 12 1,40593 14 1,9465 12 18 32,7942 10 2,20982 11 2,10985 12 21 30,7491 14 1,79599 15 7,12934 15 26 33,8281 15 1,86525 20 2,2 18 43 59,2363 16 1,34164 24 1,94202 24 18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 34 42,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB ORB n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 149 0,963288 2,62316 3,52863 112 149	n KP	detec ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts
18 32,7942 10 2,20982 11 2,10985 12 21 30,7491 14 1,79599 15 7,12934 15 26 33,8281 15 1,86525 20 2,2 18 43 59,2363 16 1,34164 24 1,94202 24 18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 34 42,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB 149 0,963288 2,62316 35,22863 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 <td< td=""><td>17</td><td>28,3792</td><td>·</td><td>0,589355</td><td></td><td>0,57529</td><td></td></td<>	17	28,3792	·	0,589355		0,57529	
21 30,7491 14 1,79599 15 7,12934 15 26 33,8281 15 1,86525 20 2,2 18 43 59,2363 16 1,34164 24 1,94202 24 18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 34 42,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB ORB 149 0,963288 2,62316 3,52863 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588	14	32,6843	12	1,40593	14	1,9465	12
26 33,8281 15 1,86525 20 2,2 18 43 59,2363 16 1,34164 24 1,94202 24 18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 44 2,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 149 0,963288 2,62316 3,52863 118 18 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 1,20588 98 2,25453 126 1,13241 126 149 1,20588 <td>18</td> <td>32,7942</td> <td>10</td> <td>2,20982</td> <td>11</td> <td>2,10985</td> <td>12</td>	18	32,7942	10	2,20982	11	2,10985	12
43 59,2363 16 1,34164 24 1,94202 24 18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 34 42,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 149 0,963288 2,62316 3,52863 152 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626	21	30,7491	14	1,79599	15	7,12934	15
18 24,6506 16 2,06668 26 2,21961 20 31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 34 42,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 149 0,963288 2,62316 3,52863 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513	26	33,8281	15	1,86525	20	2,2	18
31 37,361 15 1,71834 16 1,89092 15 26 31,6786 23 1,65624 24 2,13831 24 34 42,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 149 0,963288 2,62316 3,52863 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 138 1,03429 100	43	59,2363	16	1,34164	24	1,94202	24
26 31,6786 23 1,65624 24 2,13831 24 34 42,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 149 0,963288 2,62316 3,52863 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 1,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100	18	24,6506	16	2,06668	26	2,21961	20
34 42,9805 21 1,91658 23 1,98245 22 FAST BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 149 0,963288 2,62316 3,52863 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,99884 119 1,24741 119 BRISK BRISK BRIEF	31	37,361	15	1,71834	16	1,89092	15
FAST BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 149 0,963288 2,62316 3,52863 3,52863 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,90582 125 1,24712 123 143 2,09801 100 2,90884 119 1,24741 119	26	31,6786	23	1,65624	24	2,13831	24
n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 149 0,963288 2,62316 3,52863 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,90582 125 1,24212 123 143 2,09801 100 2,99884 119 1,24741 119 BRISK BRIEF ORB n KP detec ms	34	42,9805	21	1,91658	23	1,98245	22
149 0,963288 2,62316 3,52863 152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,90582 125 1,24212 123 143 2,09801 100 2,90582 125 1,24741 119 BRISK BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 1,327 162 282	FAST		BRISK		BRIEF		ORB
152 1,31781 97 3,0567 119 2,27418 118 150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,90582 125 1,24212 123 143 2,09801 100 2,90584 119 1,24741 119 BRISK BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 1	n KP	detec ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts
150 1,03218 104 2,53411 130 1,93951 123 155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,90582 125 1,24212 123 143 2,09801 100 2,90582 125 1,24212 123 143 2,09801 100 2,90884 119 1,24741 119 BRISK BRIEF ORB Matched pts desc ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 1,327 162 282 41,6923 1	149	0,963288		2,62316		3,52863	
155 1,26562 101 3,35859 118 2,69328 112 149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,99582 125 1,24212 123 143 2,09801 100 2,99884 119 1,24741 119 BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185	152	1,31781	97	3,0567	119	2,27418	118
149 1,20588 98 2,25453 126 1,13241 126 149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,90582 125 1,24212 123 143 2,09801 100 2,09884 119 1,24741 119 BRISK BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174	150	1,03218	104	2,53411	130	1,93951	123
149 0,930502 85 1,96427 108 2,4157 106 156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,90582 125 1,24212 123 143 2,09801 100 2,09884 119 1,24741 119 BRISK BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 <t< td=""><td>155</td><td>1,26562</td><td>101</td><td>3,35859</td><td>118</td><td>2,69328</td><td>112</td></t<>	155	1,26562	101	3,35859	118	2,69328	112
156 1,14513 107 2,06022 123 1,63251 122 150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,90582 125 1,24212 123 143 2,09801 100 2,09884 119 1,24741 119 BRISK BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07	149	1,20588	98	2,25453	126	1,13241	126
150 1,27626 107 3,1695 131 1,28881 122 138 1,03429 100 2,90582 125 1,24212 123 143 2,09801 100 2,09884 119 1,24741 119 BRISK BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 <td>149</td> <td>0,930502</td> <td>85</td> <td>1,96427</td> <td>108</td> <td>2,4157</td> <td>106</td>	149	0,930502	85	1,96427	108	2,4157	106
138 1,03429 100 2,90582 125 1,24212 123 143 2,09801 100 2,09884 119 1,24741 119 BRISK BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634	156	1,14513	107	2,06022	123	1,63251	122
143 2,09801 100 2,09884 119 1,24741 119 BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	150	1,27626	107	3,1695	131	1,28881	122
BRISK BRISK BRIEF ORB n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 2,813 162 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	138	1,03429	100	2,90582	125	1,24212	123
n KP detec ms Matched pts desc ms Matched pts desc ms Matched pts 264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	143	2,09801	100	2,09884	119	1,24741	119
264 42,8021 3,67 2,813 282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	BRISK		BRISK		BRIEF		ORB
282 41,6923 171 3,32 178 1,327 162 282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	n KP	detec ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts
282 42,447 176 3,46 205 1,156 175 277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	264	42,8021		3,67		2,813	
277 42,08 157 6,6 185 1,155 158 297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	282	41,6923	171	3,32	178	1,327	162
297 69,8223 176 3,443 179 2,19212 167 279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	282	42,447	176	3,46	205	1,156	175
279 45,6821 174 5,32 183 1,2556 160 289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	277	42,08	157	6,6	185	1,155	158
289 40,2603 188 3,07 195 1,395 182 272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	297	69,8223	176	3,443	179	2,19212	167
272 40,39 173 3,28 207 1,1261 167 266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	279	45,6821	174	5,32	183	1,2556	160
266 43,129 171 2,946 189 1,425 171 254 68,27 184 3,634 183 1,15035 172	289	40,2603	188	3,07	195	1,395	182
254 68,27 184 3,634 183 1,15035 172	272	40.20	173	3,28	207	1,1261	167
	2/2	40,39	175				
ORB BRISK BRIEF ORB		-			189	1,425	171
	266	43,129	171	2,946			

n KP	detec ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts
92	9,58783		2,112		1,70952	
102	11,2402	73	1,3899	49	0,519415	67
106	9,111	74	1,35021	43	0,954962	70
113	7,27233	79	1,4593	45	0,632916	72
109	6,81303	85	1,83543	59	1,20375	84
125	7,3332	79	1,62212	53	8,63894	91
160	19,0001	92	1,72827	78	1,54657	101
129	8,54963	90	2,39376	68	1,11621	92
127	10,737	88	1,70353	84	1,57644	93
128	15,118	91	1,6838	66	1,45874	93
AKAZE		BRISK		BRIEF		ORB
n KP	detec ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts
166	242,478		3,28752		2,8924	
157	240,643	137	3,70142	141	3,31623	131
161	160,442	125	2,42771	134	1,51899	129
155	157,635	129	3,12617	131	1,37268	127
163	141,466	129	2,87278	130	1,62445	117
164	230,659	131	3,27935	134	1,77086	130
173	148,928	132	3,12447	146	3,49065	131
173	151,314	124	3,19772	150	5,12285	137
177	131,699	146	4,12247	148	1,53847	135
179	146,118	144	3,40917	152	1,80686	145
SIFT		BRISK		BRIEF		ORB
n KP	detec ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts
138	204,123		1,85413		0,970927	
132	197,817	64	1,77102	86	1,04496	
124	170,42	66	3,32289	78	1,29686	
137	152,286	62	1,82141	76	1,34435	
134	181,383	66	2,26986	85	1,50289	
140	223,49	59	3,10577	69	0,883481	
137	324,673	64	3,15571	74	2,27874	
148	153,577	64	1,94262	76	1,28777	
159	276,368	67	3,367431	70	1,5891	
137	237,395	80	3,42656	88	1,34681	

FREAK	Column8	Column9	Column10	Column11	Column12	Column13	Column14	
desc ms								
2,75695 68,7236 39,5051 2,24665 86 61,3137 112 29,1837 1,59663 90 62,6413 109 29,4552 1,14911 86 66,9777 104 30,1594 1,62849 88 63,218 103 32,109 1,85671 80 98,0757 101 27,6827 1,99122 81 65,4467 96 33,5468 1,99124 86 68,2951 106 25,7202 1,14387 85 73,819 97 25,0834 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms Matched pts desc ms Matched pts desc ms Matched pts desc ms Matched pts desc ms Matched pts desc ms Matched pts desc ms 1,51924 66,6871 42,8876 1,43,8718 1,44,28876 1,539 1,34,8718 1,44,28876 1,539 <t< td=""><td>desc ms</td><td>Matched pts</td><td>desc ms</td><td>Matched pts</td><td>desc ms</td><td>Matched pts</td><td>desc ms</td></t<>	desc ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts	desc ms	
2,24665 86 61,3137 112 29,1837 1,59663 90 62,6413 109 29,4552 1,14911 86 66,9777 104 30,1594 1,62849 88 63,218 103 32,109 2,17841 86 71,86 99 34,8879 1,85671 80 98,0757 101 27,6827 1,99122 81 65,4467 96 33,5468 1,13548 86 68,2951 106 25,7202 1,14387 85 73,819 97 25,0834 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,51924 66,6871 42,8876 14 36,3153 1,51008 13 63,6863 11 43,8718 1,51008 13 63,6863 11 43,8718 1,54729 15 69,5265 19 37,7566 1,57428 17 16 38,3113 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 <td< td=""><td>2,75695</td><td>•</td><td>68,7236</td><td>•</td><td></td><td>•</td><td></td></td<>	2,75695	•	68,7236	•		•		
1,59663 90 62,6413 109 29,4552 1,14911 86 66,9777 104 30,1594 1,62849 88 63,218 103 32,109 2,17841 86 71,86 99 34,8879 1,85671 80 98,0757 101 27,6827 1,99122 81 65,4467 96 33,5468 1,13548 86 68,2951 106 25,7202 1,14387 85 73,819 97 25,0834 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,51924 66,6871 42,8876 14 36,3153 1,5393 13 58,1469 14 36,3153 1,51924 1,54481 15 64,77 16 38,3113 1,54728 17 16 38,3113 1,54728 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 </td <td></td> <td>86</td> <td></td> <td></td> <td></td> <td>112</td> <td></td>		86				112		
1,14911 86 66,9777 104 30,1594 1,62849 88 63,218 103 32,109 1,85671 80 98,0757 101 27,6827 1,99122 81 65,4467 96 33,5468 1,13548 86 68,2951 106 25,7202 1,14387 85 73,819 97 25,0834 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,51924 66,6871 42,8876 1,539 13 58,1469 14 36,3153 1,51008 13 63,8683 11 43,8718 1,54729 15 69,5265 19 37,7566 1,57429 15 69,5265 19 37,7566 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,2893 36,7874 1,28917 50,2112 33,099 1,21263 98 60,9365 118 34,5987 1,28917 50,2112	1,59663	90				109		
2,17841 86 71,86 99 34,8879 1,85671 80 98,0757 101 27,6827 1,99122 81 65,4467 96 33,5468 1,13548 86 68,2951 106 25,7202 1,14387 85 73,819 97 25,0834 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,51924 66,6871 42,8876 42,8876 1,539 13 58,1469 14 36,3153 1,51008 13 63,8683 11 43,8718 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,2 36,7874 Lesc ms Matched pts desc ms Matched pts desc ms Matched pts		86				104		
2,17841 86 71,86 99 34,8879 1,85671 80 98,0757 101 27,6827 1,99122 81 65,4467 96 33,5468 1,13548 86 68,2951 106 25,7202 1,14387 85 73,819 97 25,0834 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,51924 66,6871 42,8876 42,8876 1,539 13 58,1469 14 36,3153 1,51008 13 63,8683 11 43,8718 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,2 36,7874 Lesc ms Matched pts desc ms Matched pts desc ms Matched pts	1,62849	88	63,218			103	32,109	
1,99122 81 65,4467 96 33,5468 1,13548 86 68,2951 106 25,7202 1,14387 85 73,819 97 25,0834 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,51924 66,6871 42,8876 1,539 13 58,1469 14 36,3153 1,51008 13 63,8683 11 43,8718 1,540481 15 64,77 16 38,3113 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK AKAZE SIFT <t< td=""><td></td><td>86</td><td>71,86</td><td></td><td></td><td>99</td><td>34,8879</td></t<>		86	71,86			99	34,8879	
1,13548 86 68,2951 106 25,7202 1,14387 85 73,819 97 25,0834 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,51924 66,6871 42,8876 42,8876 1,5399 13 58,1469 14 36,3153 1,51008 13 63,8683 11 43,8718 1,54481 15 64,77 16 38,3113 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 39,2571 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 desc ms Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 118 34,5987 1,09024 9	1,85671	80	98,0757			101	27,6827	
1,14387 85 73,819 97 25,0834 FREAK	1,99122	81	65,4467			96	33,5468	
desc ms Matched pts desc ms Matched pts desc ms Matched pts desc ms 1,51924 66,6871 42,8876 1,539 14 36,3153 1,51008 13 63,8683 11 43,8718 1,5481 15 64,77 16 38,3113 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 REAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 1,21263 98 60,9365 118 34,5987 1,902526 99 59,1742 123 46,0045 1,0044 1	1,13548	86	68,2951			106	25,7202	
desc ms	1,14387	85	73,819			97	25,0834	
1,51924 66,6871 42,8876 1,539 13 58,1469 14 36,3153 1,51008 13 63,8683 11 43,8718 1,45481 15 64,77 16 38,3113 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 33,0099 33,0099 1,21263 98 60,9365 118 34,5987 0,902526 99 59,1742 123 46,0045 1,09074 91 59,9928 110 35,7623 2,1378 98 53,2607 119 41,9913 1,0133		FREAK		AKAZE		SIFT		
1,539 13 58,1469 14 36,3153 1,51008 13 63,8683 11 43,8718 1,45481 15 64,77 16 38,3113 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 33,0099 1,21263 98 60,9365 118 34,5987 0,902526 99 59,1742 123 46,0045 1,09074 91 59,9928 110 35,7623 2,1378 98 53,2607 119 41,9913 1,0133 85 58,9544 114 42,9501 1,34782 <	desc ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts	desc ms	
1,51008 13 63,8683 11 43,8718 1,45481 15 64,77 16 38,3113 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 33,0099 1,21263 98 60,9365 118 34,5987 0,902526 99 59,1742 123 46,0045 46,0045 1,09074 91 59,9928 110 35,7623 1,191 41,9913 1,0133 85 58,544 114 42,9501 1,13547 99 59,3146 119 35,637 1,22327 102 60,6274 123	1,51924		66,6871				42,8876	
1,45481 15 64,77 16 38,3113 1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 33,0099 33,0099 1,21263 98 60,9365 118 34,5987 0,902526 99 59,1742 123 46,0045 1,09074 91 59,9928 110 35,7623 2,1378 98 53,2607 119 41,9913 1,0133 85 58,9544 114 42,9501 1,13547 99 59,3146 119 35,637 1,22327 102 60,6274 123 50,3816 1,38529 101 56,1742<	1,539	13	58,1469			14	36,3153	
1,54729 15 69,5265 19 37,7566 1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 31,21263 98 60,9365 118 34,5987 1,09074 91 59,9928 110 35,7623 2,1378 98 53,2607 119 41,9913 1,0133 85 58,9544 114 42,9501 1,13547 99 59,3146 119 35,637 1,22327 102 60,6274 123 50,3816 1,38529 101 56,1742 117 29,8301 1,34782 105 48,8024 103 36,8 8 <td c<="" td=""><td>1,51008</td><td>13</td><td>63,8683</td><td></td><td></td><td>11</td><td>43,8718</td></td>	<td>1,51008</td> <td>13</td> <td>63,8683</td> <td></td> <td></td> <td>11</td> <td>43,8718</td>	1,51008	13	63,8683			11	43,8718
1,57428 17 70,4524 22 39,2571 2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 1,21263 98 60,9365 118 34,5987 0,902526 99 59,1742 123 46,0045 1,09074 91 59,9928 110 35,7623 2,1378 98 53,2607 119 41,9913 1,0133 85 58,9544 114 42,9501 1,13547 99 59,3146 119 35,637 1,22327 102 60,6274 123 50,3816 1,34782 105 48,8024 103 36,8 FREAK AKAZE SIFT desc ms Matched pts	1,45481	15	64,77			16	38,3113	
2,65238 20 73,8587 22 33,6676 1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 1,21263 98 60,9365 118 34,5987 0,902526 99 59,1742 123 46,0045 1,09074 91 59,9928 110 35,7623 2,1378 98 53,2607 119 41,9913 1,0133 85 58,9544 1119 41,99501 1,13547 99 59,3146 119 35,637 1,22327 102	1,54729	15	69,5265			19	37,7566	
1,74979 12 77,9966 13 40,1789 8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK AKAZE SIFT desc ms Matched pts desc ms Matched pts desc ms 1,28917 50,2112 33,0099 1,21263 98 60,9365 118 34,5987 0,902526 99 59,1742 123 46,0045 1,09074 91 59,9928 110 35,7623 2,1378 98 53,2607 119 41,9913 1,0133 85 58,9544 114 42,9501 1,13547 99 59,3146 119 35,637 1,22227 102 60,6274 123 50,3816 1,38529 101 56,1742 117 29,8301 1,34782 105 48,8024 103 36,8 FREAK AKAZE <td col<="" td=""><td>1,57428</td><td>17</td><td>70,4524</td><td></td><td></td><td>22</td><td>39,2571</td></td>	<td>1,57428</td> <td>17</td> <td>70,4524</td> <td></td> <td></td> <td>22</td> <td>39,2571</td>	1,57428	17	70,4524			22	39,2571
8,90322 21 68,306 24 32,893 1,30481 18 76,43 22 36,7874 FREAK AKAZE SIFT desc ms Matched pts desc ms 1,28917 50,2112 33,0099 1,2163 98 60,9365 118 34,5987 0,902526 99 59,1742 123 46,0045 1,09074 91 59,9928 110 35,7623 2,1378 98 53,2607 119 41,9913 1,0133 85 58,9544 114 42,9501 1,13547 99 59,3146 119 13,5637 1,22327 102 60,6274 117 29,8301 1,34782 105 48,8024 103 36,8								

desc ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts	desc ms
7,96255		52,1071				89,5034
6,77302	42	51,2726			67	76,2952
6,40856	36	64,3322			79	108,16
8,234	44	68,9229			78	110,642
10,9406	47	70,9775			79	98,9473
15,6767	44	60,7096			82	112,031
5,71003	51	62,3943			95	114,199
4,32482	52	60,3579			95	120,881
13,1852	48	58,7772			94	107,171
5,05721	56	72,0677			94	131,061
	FREAK		AKAZE		SIFT	
desc ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts	desc ms
7,33239		65,3399		117,401		40,4904
6,19312	126	65,7274	138	112,567	134	52,4264
7,30775	129	85,4556	138	133,004	134	49,2921
5,30805	127	77,0915	133	131,195	130	88,4674
6,72293	121	85,2552	127	158,862	136	66,0216
10,6533	122	74,9613	129	159,22	137	59,0221
5,55181	133	71,3775	146	123,805	147	65,6723
3,83753	144	66,8676	147	172,767	147	57,6655
11,6327	147	97,1499	151	166,557	154	73,3589
6,95304	138	75,7142	150	184,941	151	58,9479
	FREAK		AKAZE		SIFT	
desc ms	Matched pts	desc ms	Matched pts	desc ms	Matched pts	desc ms
		58,3618				139,2
	65	60,4942			82	112,105
	72	63,5353			81	147,469
	64	57,7555			85	128,66
	66	86,2002			93	149,766
	59	79,665			90	152,237
	59	67,0515			81	109,537
	64	68,8745			82	107,811
	65	73,2138			102	103,347
	79	78,9497			104	105,127