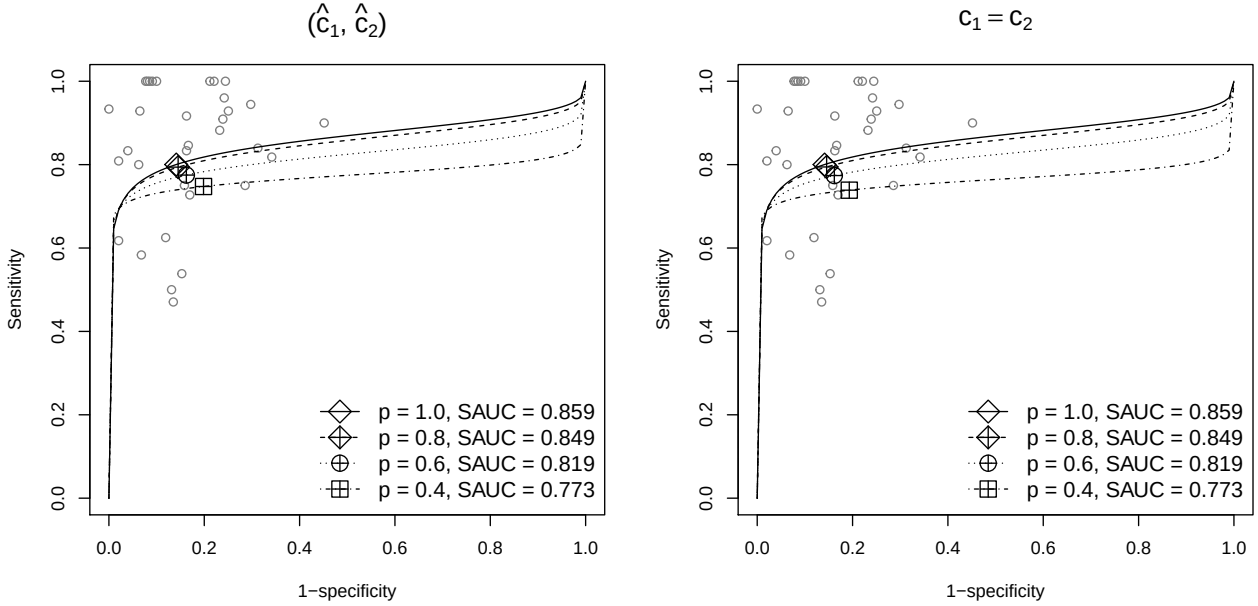
Example: IVD

Yi

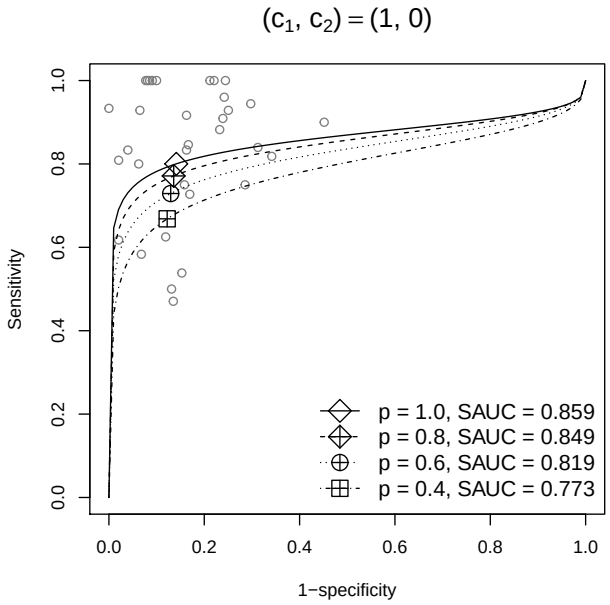
2021-06-15

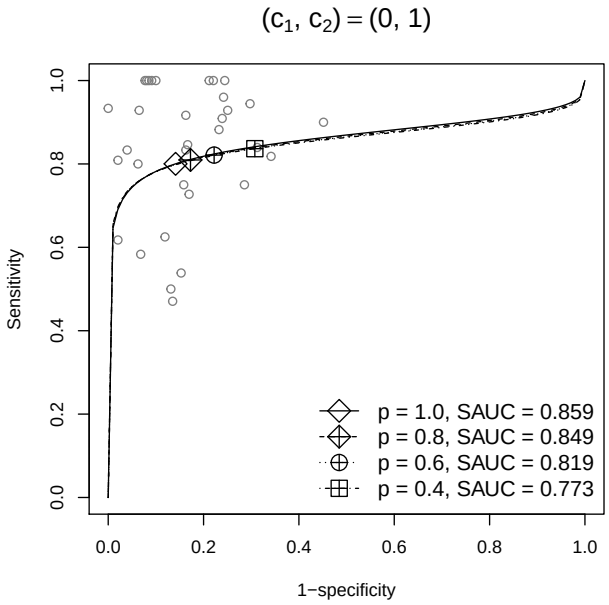
IVD

SROC Plot

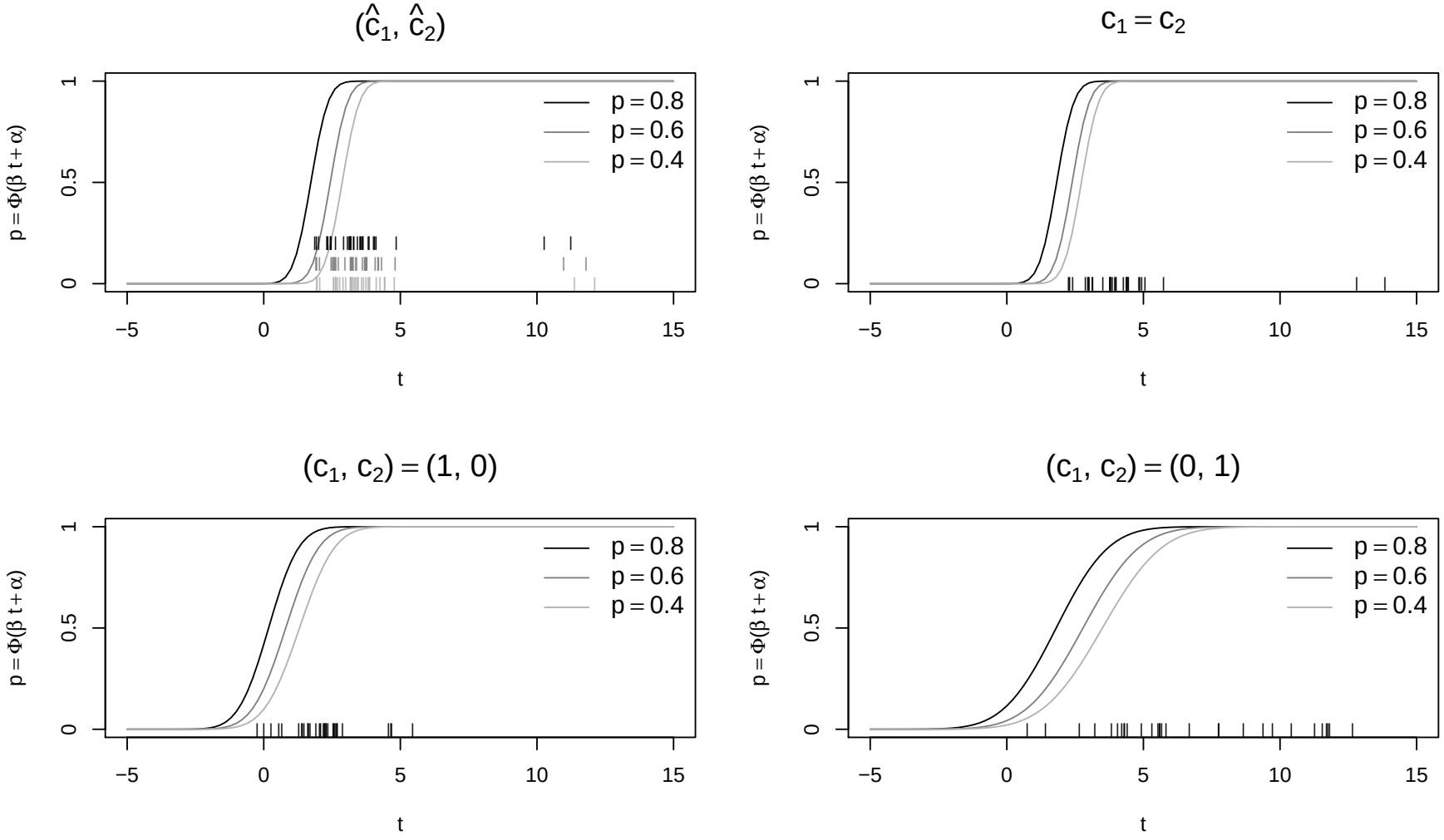

$(\hat{c}_1, \hat{c}_2)$
Sensitivity
1−specificity
p = 1.0, SAUC = 0.859
p = 0.8, SAUC = 0.849
p = 0.6, SAUC = 0.819
p = 0.4, SAUC = 0.773

$c_1 = c_2$
Sensitivity
1−specificity
p = 1.0, SAUC = 0.859
p = 0.8, SAUC = 0.849
p = 0.6, SAUC = 0.819
p = 0.4, SAUC = 0.773


$(c_1, c_2) = (1, 0)$
Sensitivity
1−specificity
p = 1.0, SAUC = 0.859
p = 0.8, SAUC = 0.849
p = 0.6, SAUC = 0.819
p = 0.4, SAUC = 0.773


$(c_1, c_2) = (0, 1)$
Sensitivity
1−specificity
p = 1.0, SAUC = 0.859
p = 0.8, SAUC = 0.849
p = 0.6, SAUC = 0.819
p = 0.4, SAUC = 0.773

Probit of α and β

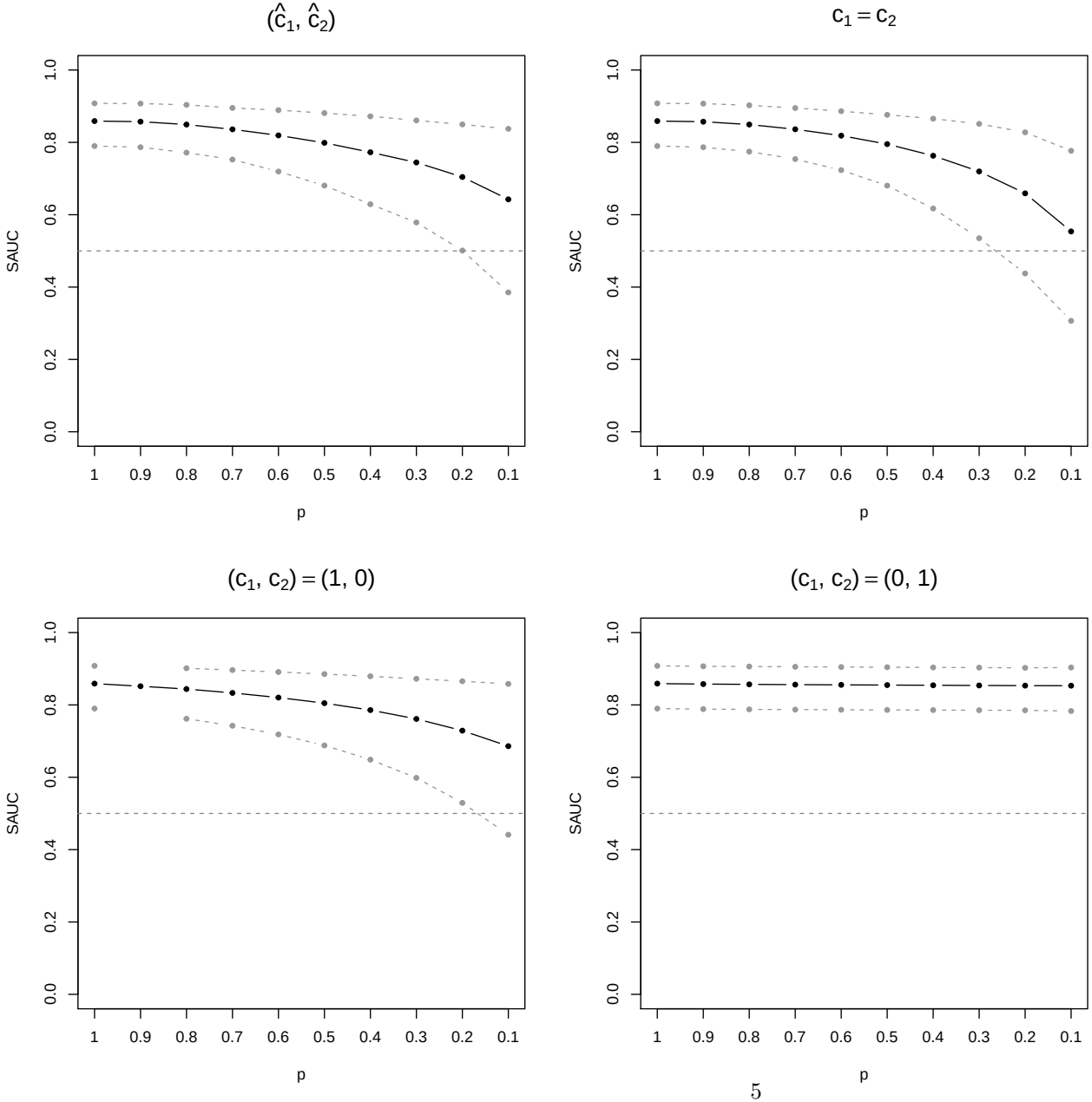


SROC estimates

Table 1: Example: IVD

(c_1, c_2)	p	SAUC (95%CI)	μ_1	μ_2	τ_1	τ_2	ρ	c_1	c_2	β (95%CI)	α_p	se	sp
$(\hat{c}_1, \hat{c}_2)$	1.0	0.859 (0.790, 0.908)	1.388	1.804	0.545	0.819	-0.423			NA (NA, NA)		0.800	0.859
	0.8	0.849 (0.772, 0.904)	1.349	1.773	0.552	0.828	-0.382	0.746	0.666	2.000 (-1.596, 5.596)	-3.449	0.794	0.855
	0.6	0.819 (0.719, 0.889)	1.236	1.640	0.551	0.859	-0.297	0.691	0.723	2.000 (-0.536, 4.536)	-4.871	0.775	0.838
	0.4	0.773 (0.629, 0.872)	1.086	1.396	0.558	0.919	-0.174	0.657	0.754	1.993 (0.418, 3.568)	-5.719	0.748	0.802
$(c_1 = c_2)$	1.0	0.859 (0.790, 0.908)	1.388	1.804	0.545	0.819	-0.423			NA (NA, NA)		0.800	0.859
	0.8	0.849 (0.774, 0.902)	1.352	1.769	0.550	0.831	-0.382	0.707	0.707	2.000 (-0.194, 4.194)	-3.647	0.794	0.854
	0.6	0.819 (0.723, 0.886)	1.230	1.645	0.554	0.857	-0.294	0.707	0.707	2.000 (0.097, 3.903)	-4.781	0.774	0.838
	0.4	0.763 (0.617, 0.865)	1.040	1.430	0.578	0.903	-0.151	0.707	0.707	2.000 (0.410, 3.590)	-5.456	0.739	0.807
$(c_1 = 1)$	1.0	0.859 (0.790, 0.908)	1.388	1.804	0.545	0.819	-0.423			NA (NA, NA)		0.800	0.859
	0.8	0.844 (0.762, 0.901)	1.215	1.850	0.631	0.826	-0.407	1.000	0.000	1.150 (-0.010, 2.310)	-0.204	0.771	0.864
	0.6	0.820 (0.718, 0.891)	0.990	1.904	0.691	0.832	-0.404	1.000	0.000	1.046 (0.289, 1.804)	-0.842	0.729	0.870
	0.4	0.786 (0.649, 0.879)	0.701	1.972	0.749	0.837	-0.402	1.000	0.000	0.987 (0.297, 1.676)	-1.290	0.668	0.878
$(c_1 = 0)$	1.0	0.859 (0.790, 0.908)	1.388	1.804	0.545	0.819	-0.423			NA (NA, NA)		0.800	0.859
	0.8	0.857 (0.788, 0.906)	1.447	1.567	0.560	0.968	-0.468	0.000	1.000	0.663 (-0.051, 1.377)	-1.198	0.810	0.827
	0.6	0.855 (0.787, 0.905)	1.525	1.253	0.575	1.098	-0.506	0.000	1.000	0.617 (0.079, 1.154)	-1.720	0.821	0.778
	0.4	0.854 (0.786, 0.904)	1.633	0.812	0.592	1.245	-0.547	0.000	1.000	0.581 (0.073, 1.090)	-2.034	0.837	0.692

SAUC plot


$(\hat{c}_1, \hat{c}_2)$
$c_1 = c_2$
$(c_1, c_2) = (1, 0)$
$(c_1, c_2) = (0, 1)$
SAUC
p
0.0
0.2
0.4
0.6
0.8
1.0
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1