

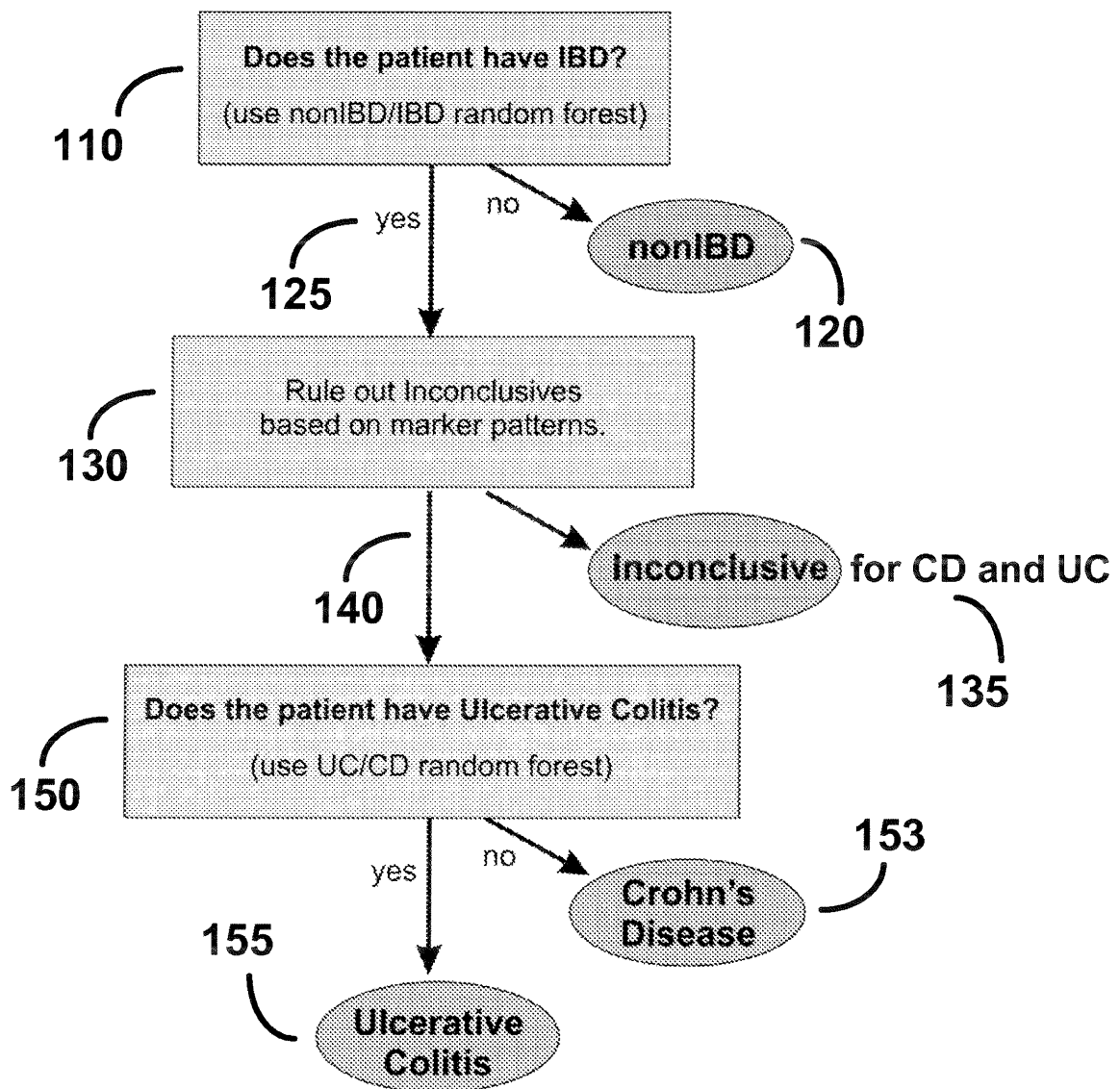
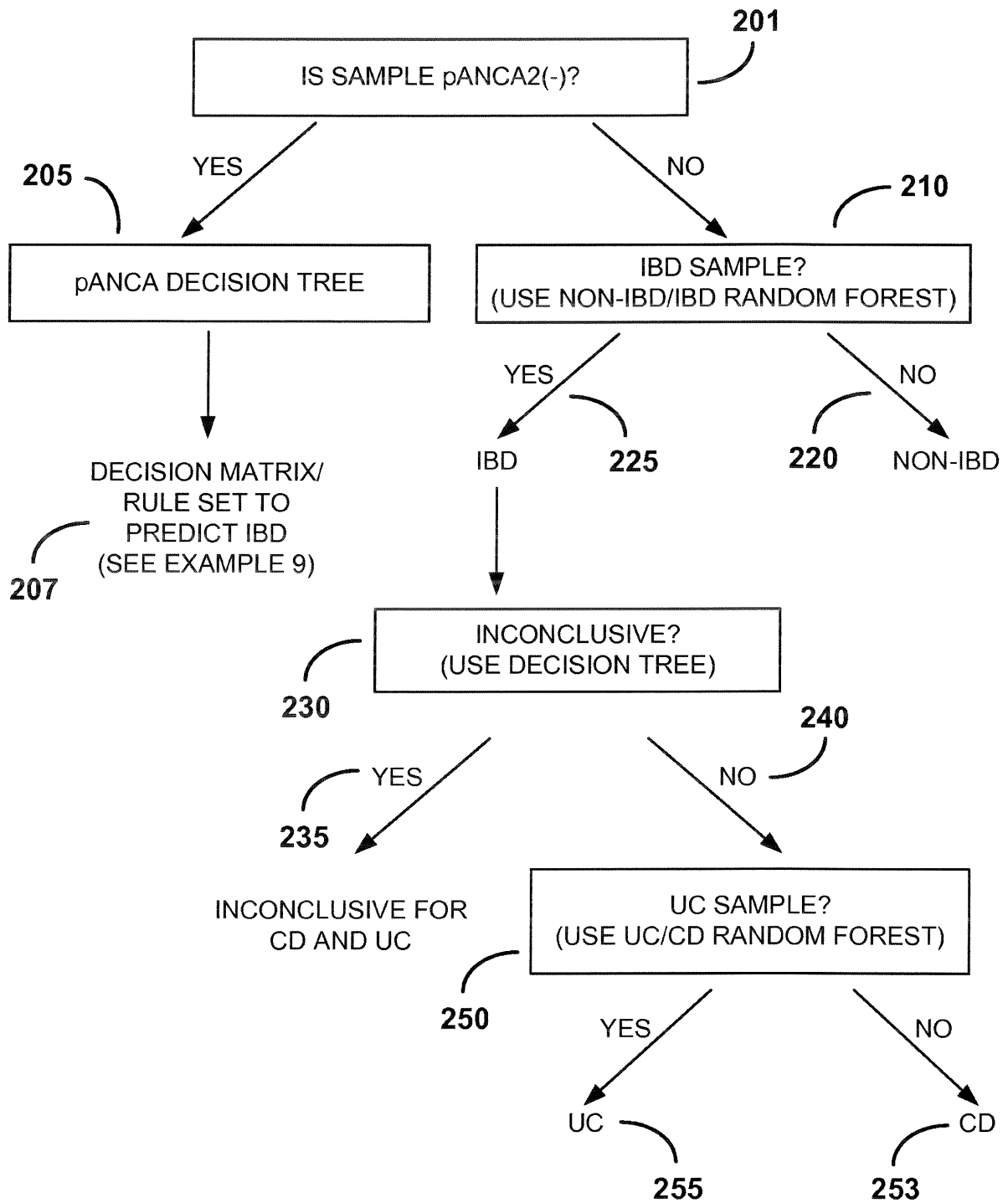


FIG. 1



* pANCA2(-) = $\emptyset$ OR + 1 pANCA (NOT DETECTED OR WEAK)

FIG. 2

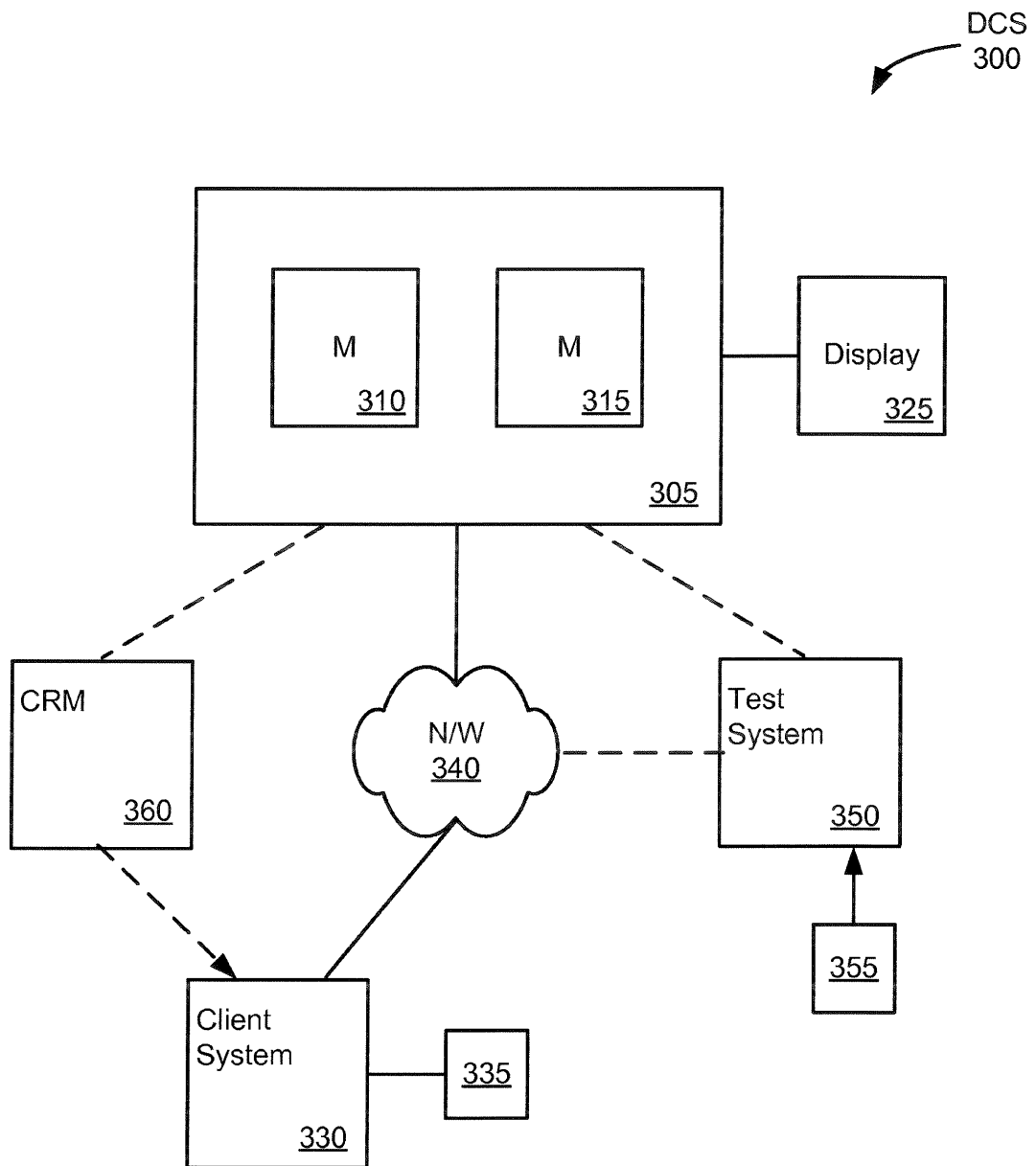


FIG. 3

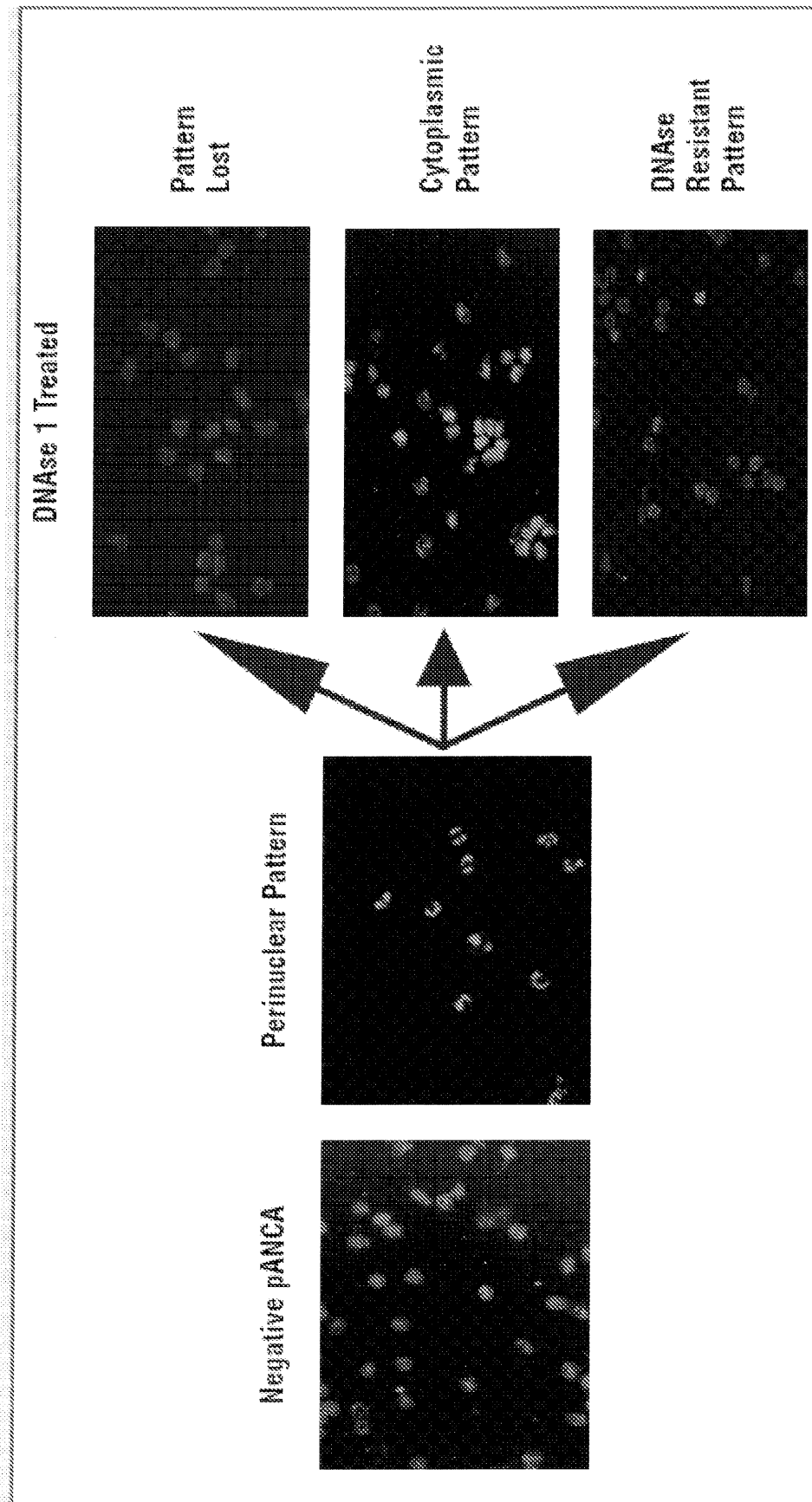
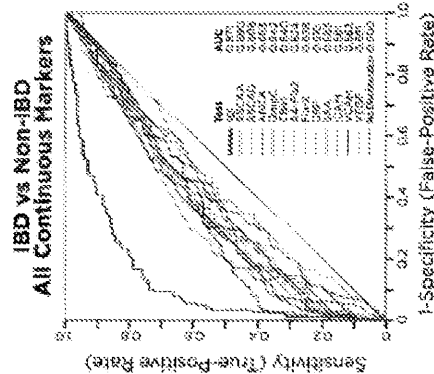


FIG. 4

1520 well-characterized samples
from 42 community practices and
8 tertiary care centers

	Training Cohort Train the algorithm to recognize marker patterns of disease	Validation Cohort Test the performance of the algorithm
CD	419 (39%)	153 (35%)
UC	227 (21%)	101 (23%)
GI	314 (29%)	123 (28%)
Healthy Controls	103 (10%)	60 (14%)
Totals	1063	437

Smart Diagnostic Algorithm increases diagnostic accuracy



The value of the Smart Diagnostic Algorithm in combination with our biomarkers

- Aids in distinguishing between IBD, non-IBD, CD, and UC
- Better performance than simple ASCA/ANCA cutoff testing
- Unlike cutoff analyses, identifies patients who have low levels of IBD markers but are still disease-positive

FIG. 5

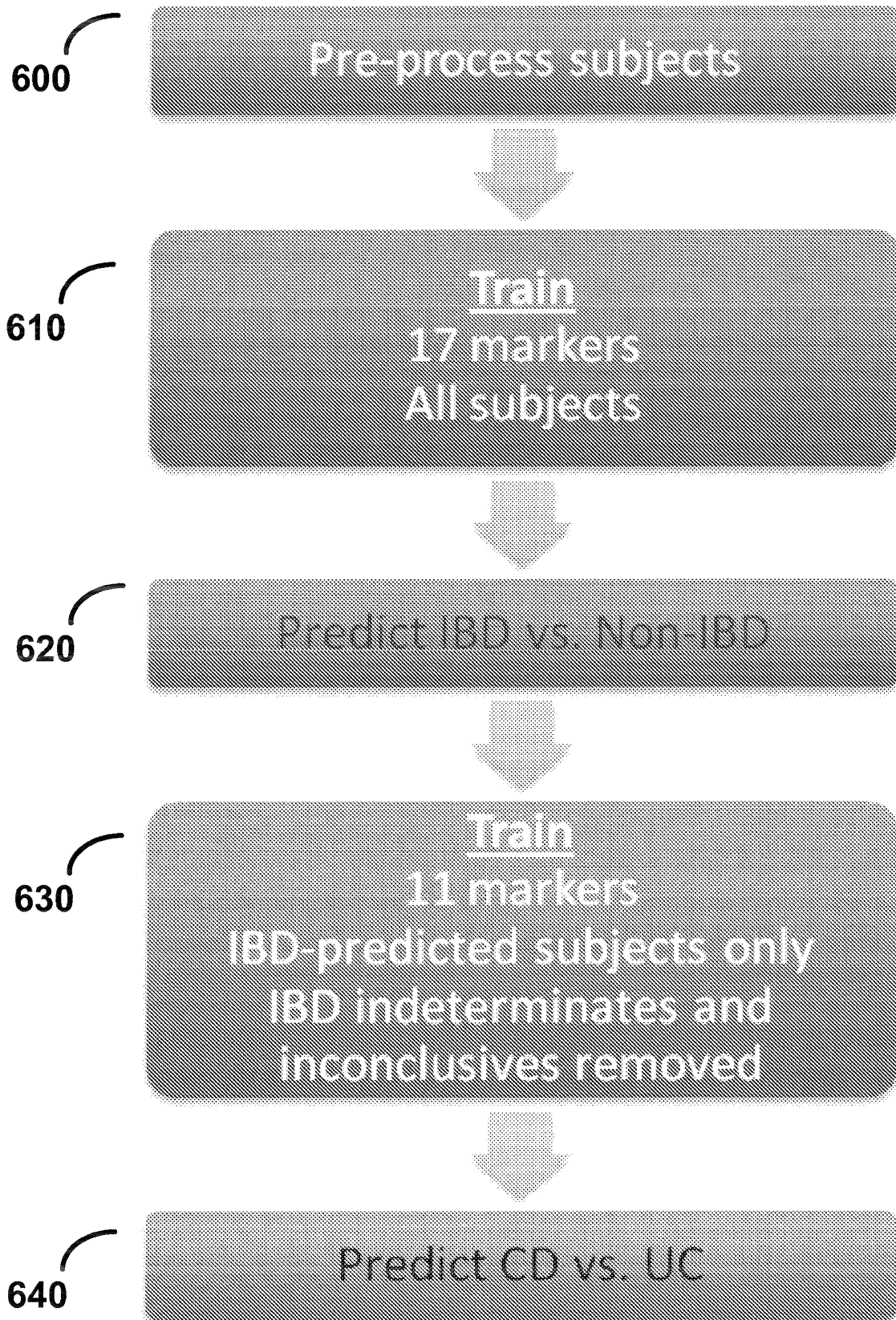


FIG. 6

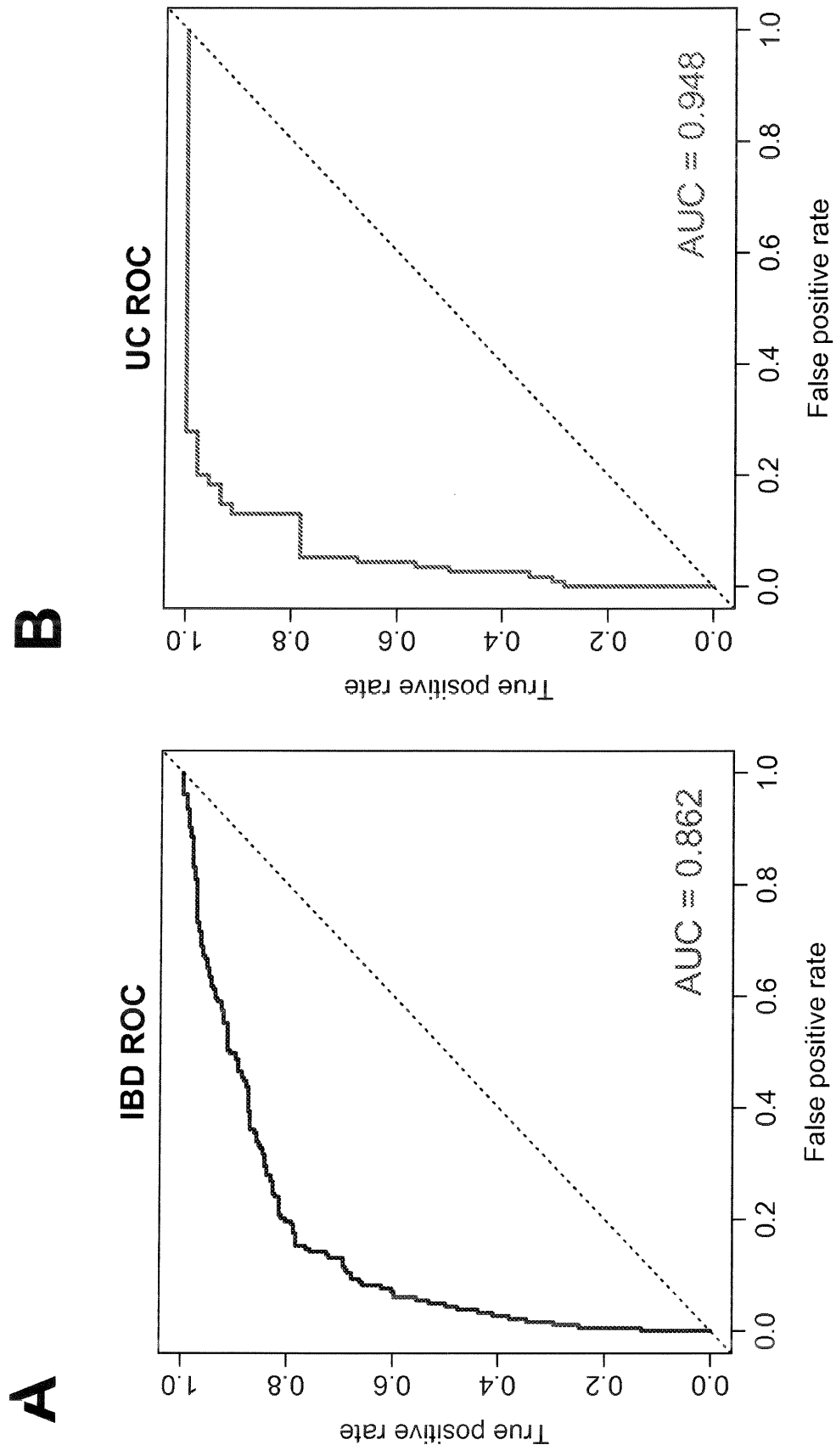
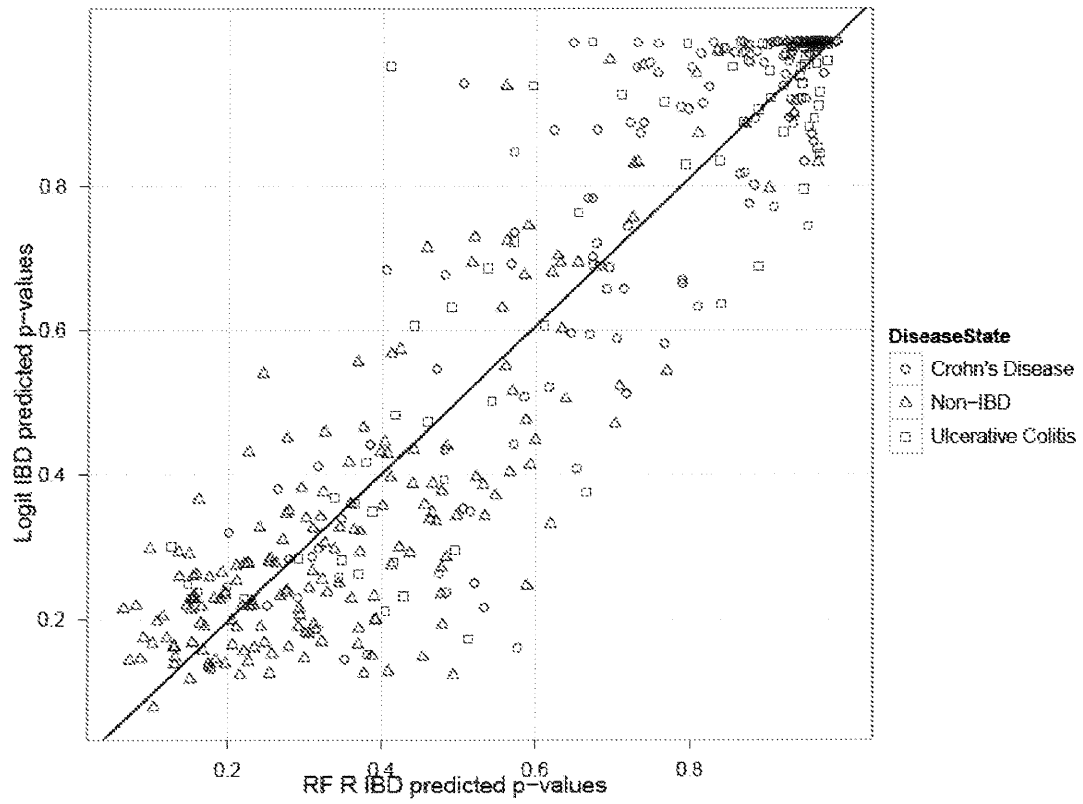
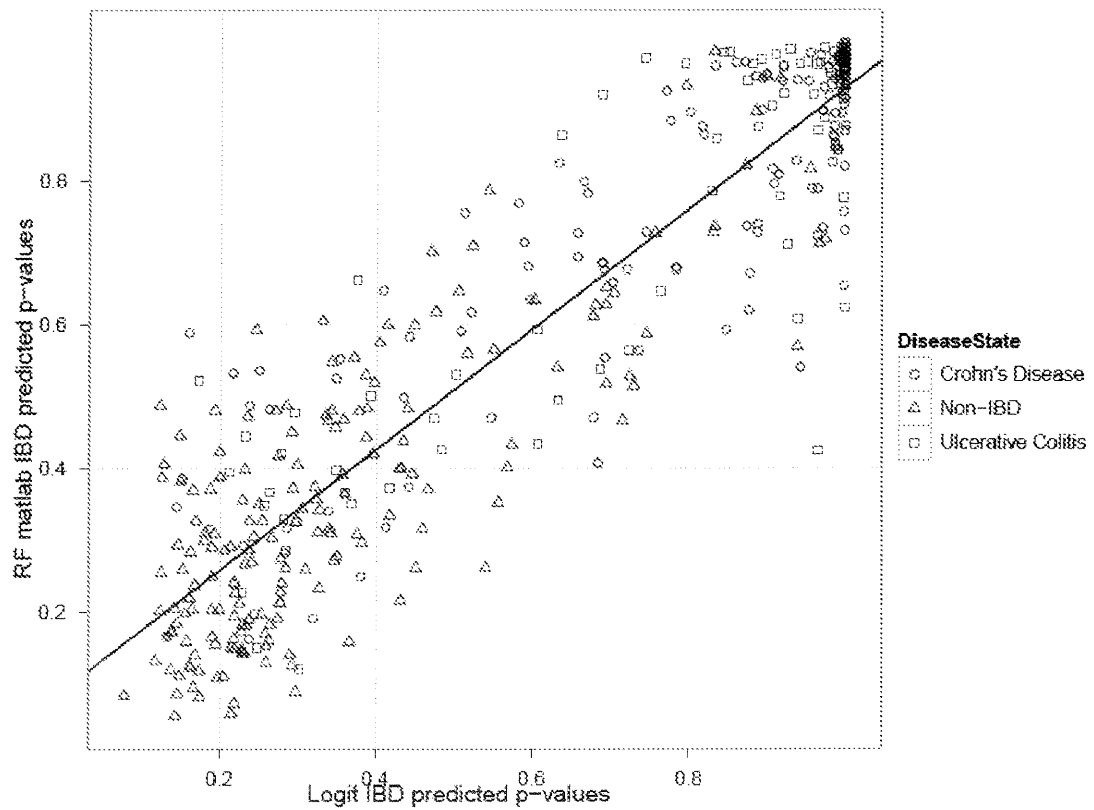


FIG. 7

A**B****FIG. 8**

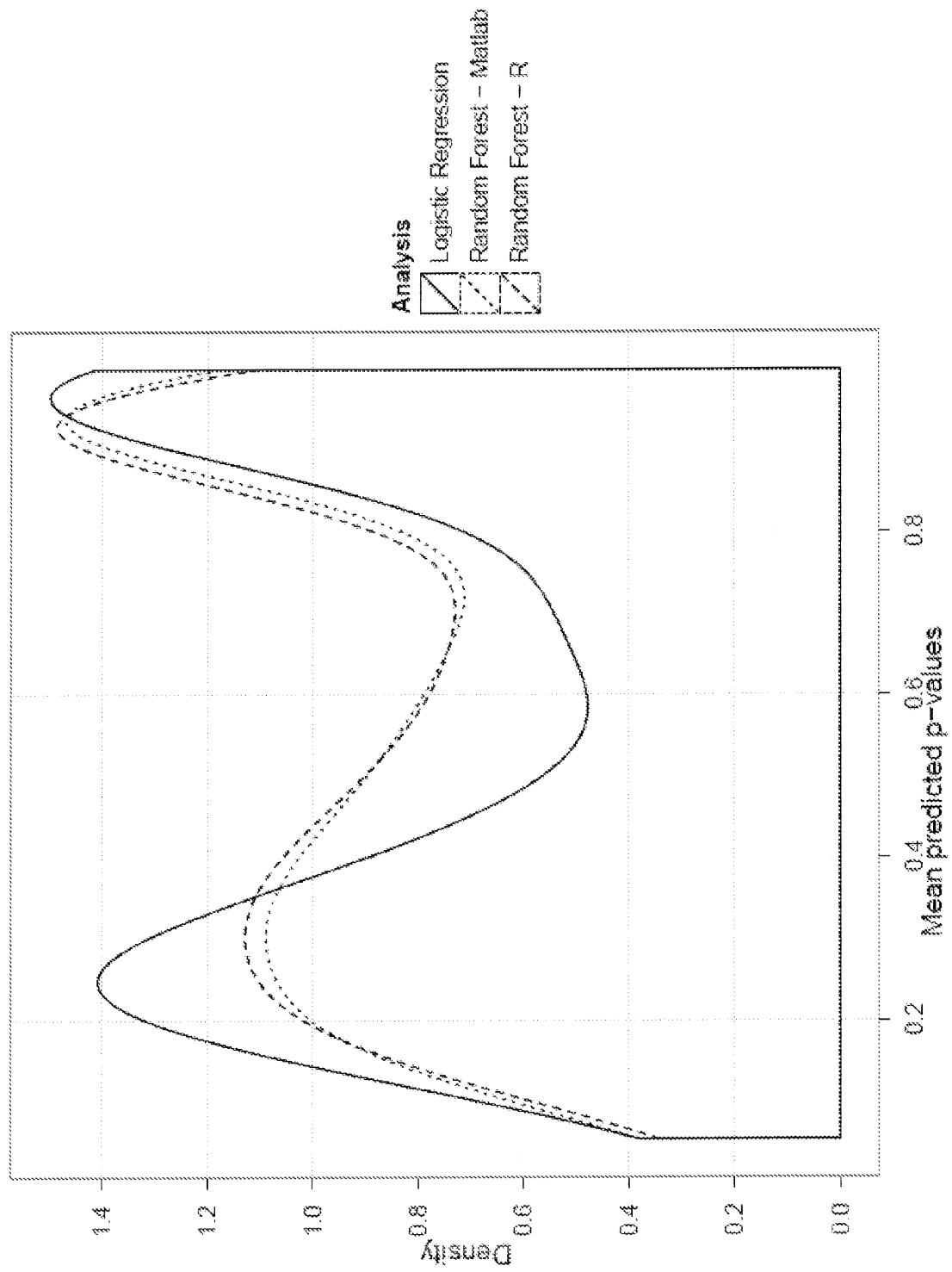
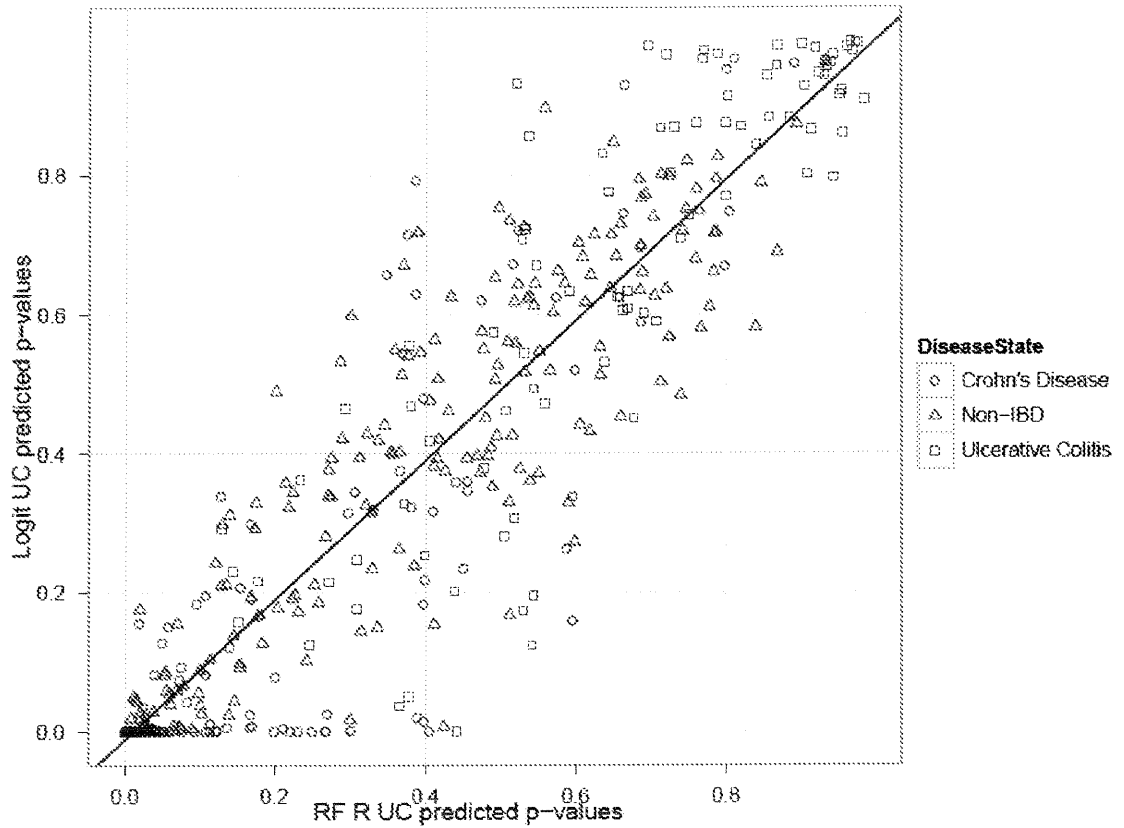
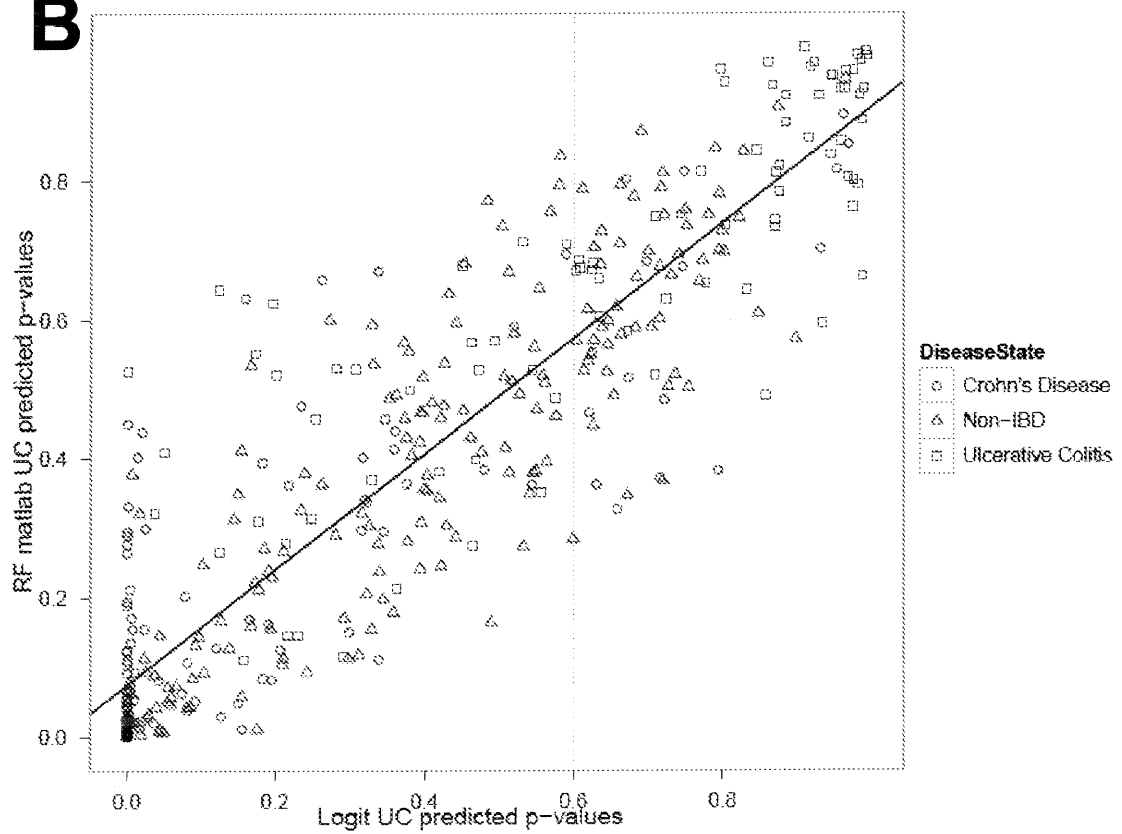


FIG. 9

A**B****FIG. 10**

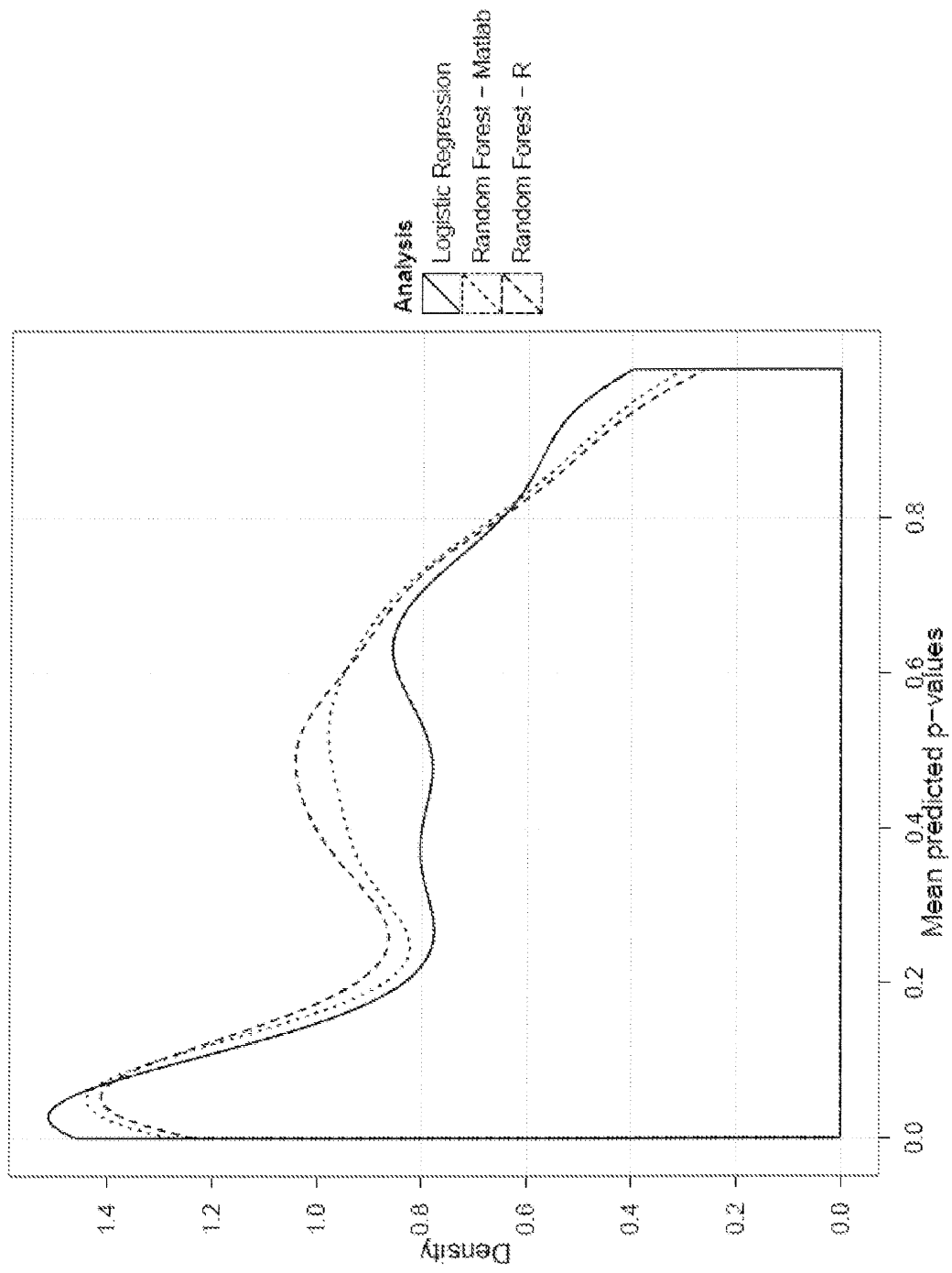


FIG. 11

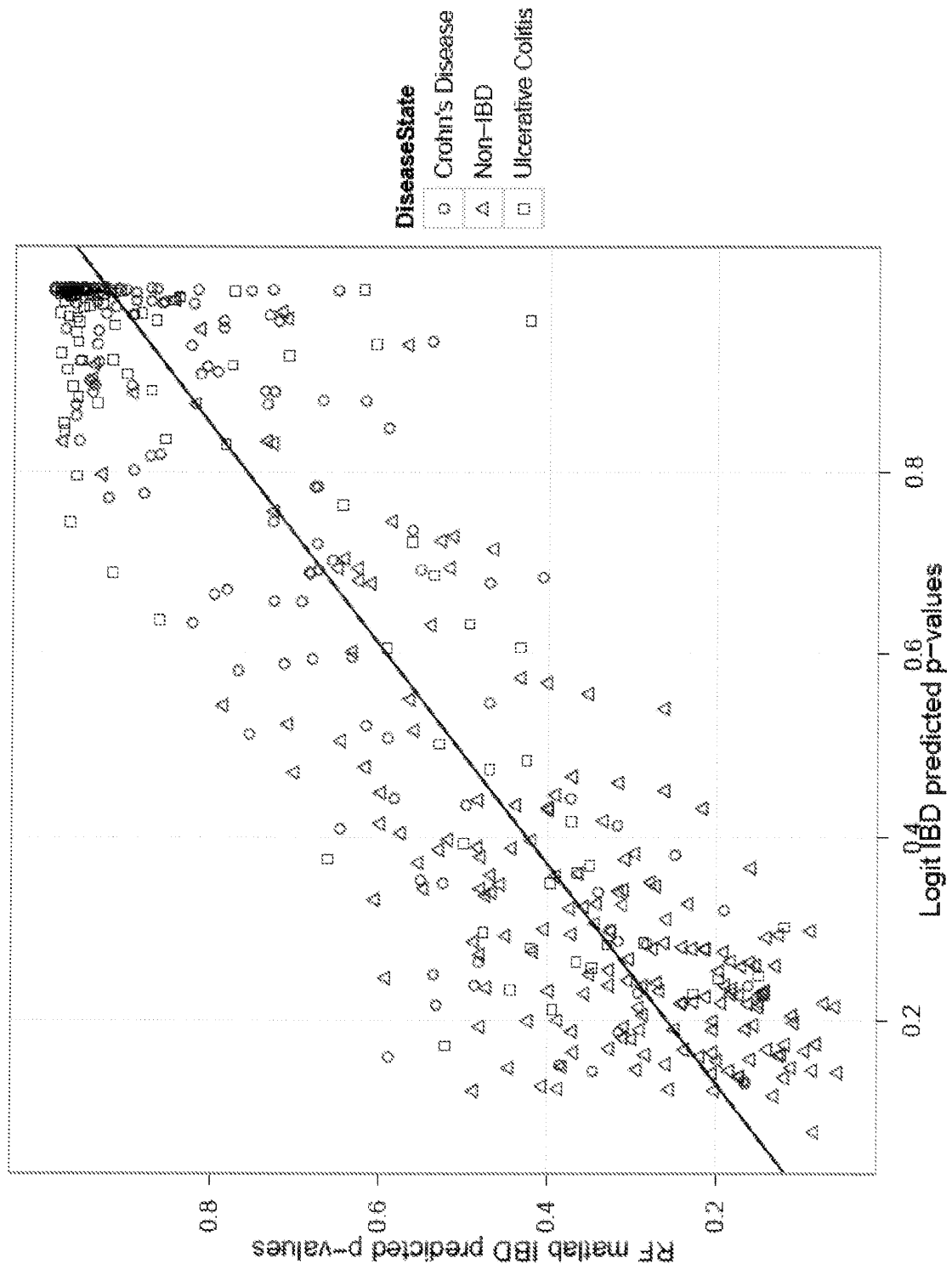


FIG. 12

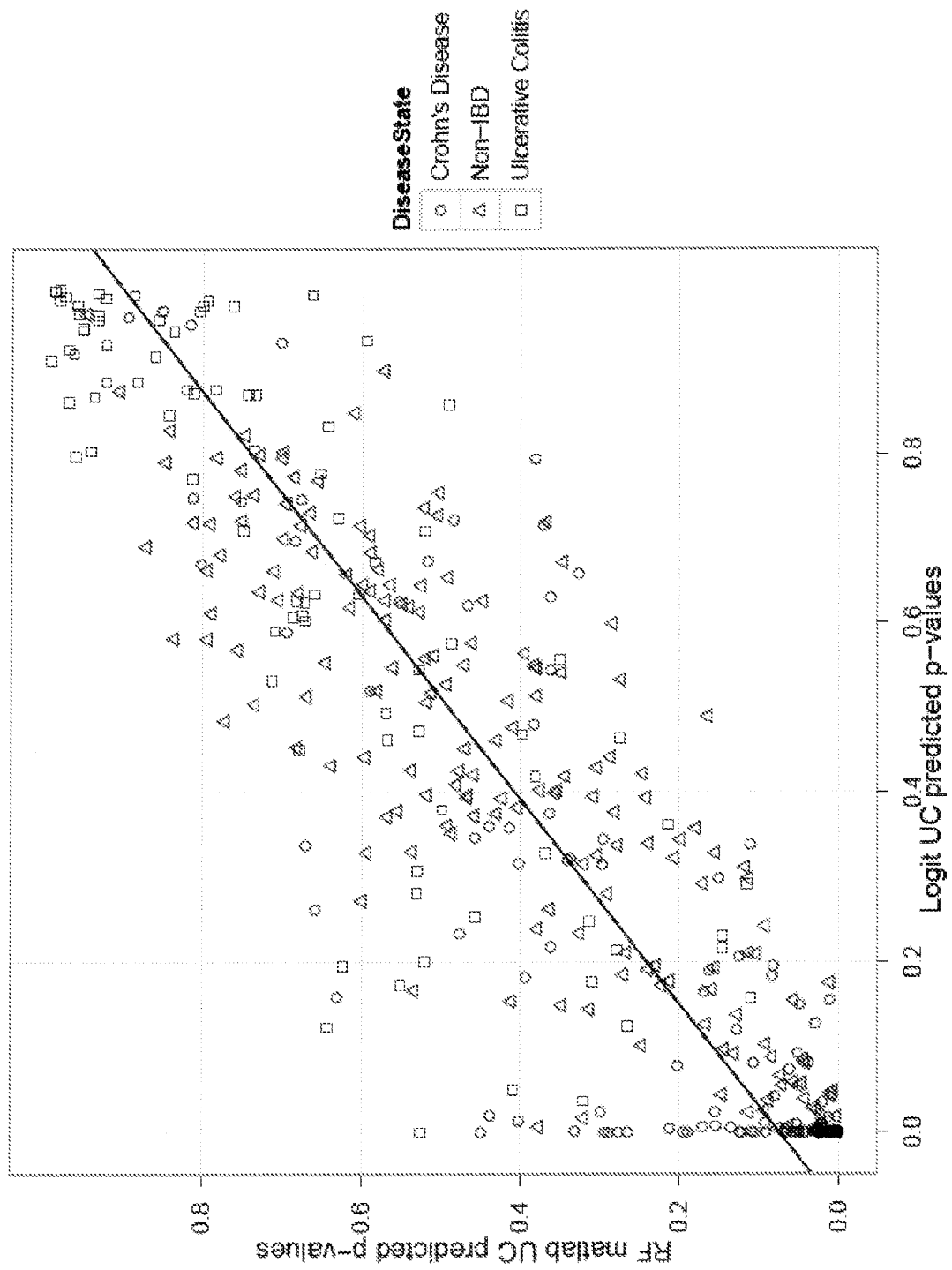


FIG. 13

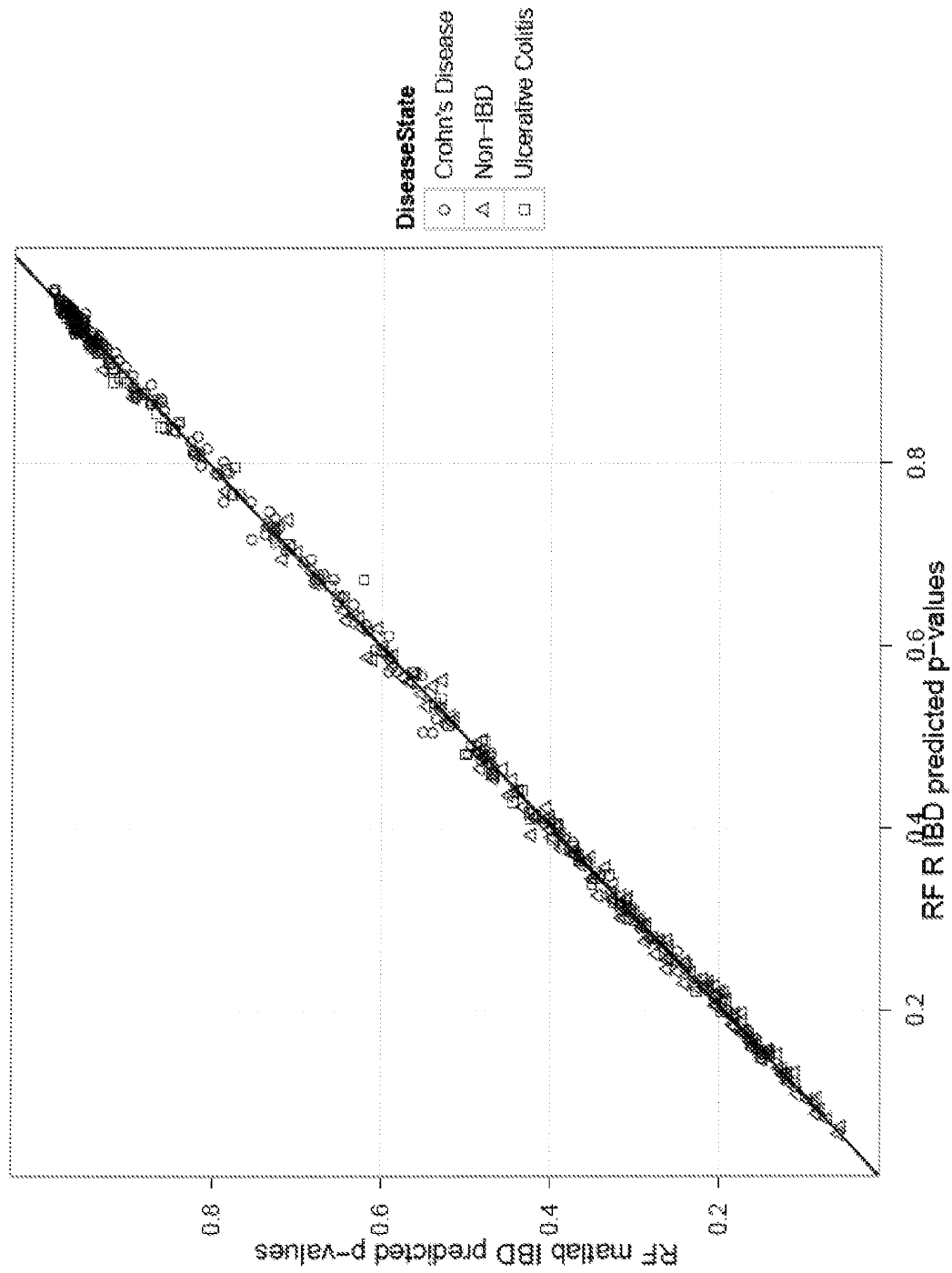


FIG. 14

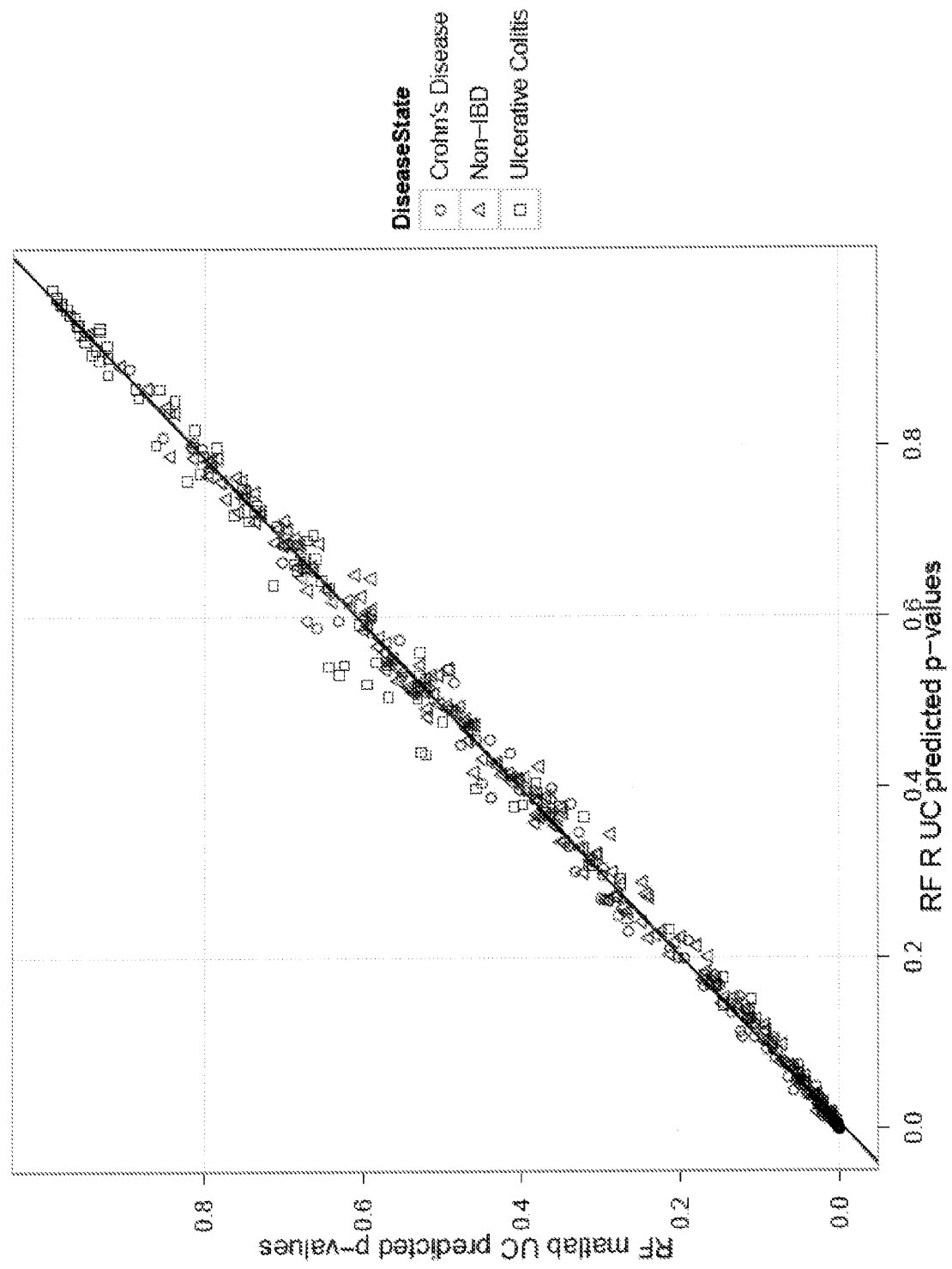


FIG. 15

IBD sgi cohort Serological markers

		non-IBD (n=620)	CD (n=572)	UC (n=328)
Serological Markers	ASCAA	9.83%	52.62%	7.93%
	ASCAG	11.77%	48.43%	9.76%
	ANCA	6.29%	24.13%	62.80%
	pANCA	3.23%	20.98%	61.59%
	OmpC	15.16%	37.41%	21.95%
	CBir1	15.97%	39.51%	17.38%
	Fla2	11.94%	44.41%	15.85%
	FlaX	11.61%	44.41%	16.46%

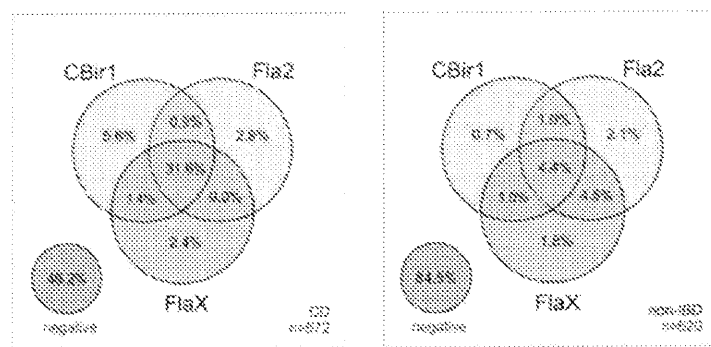


FIG. 16

IBD sgi cohort Inflammatory markers

		non-IBD (n=628)	CD (n=572)	UC (n=328)
Inflammatory markers	VEGF	18.23%	30.59%	28.05%
	CRP	17.26%	31.92%	24.09%
	SAA	13.06%	37.59%	25.61%
	ICAM	18.55%	30.42%	28.05%
	VCAM	19.01%	27.97%	31.40%

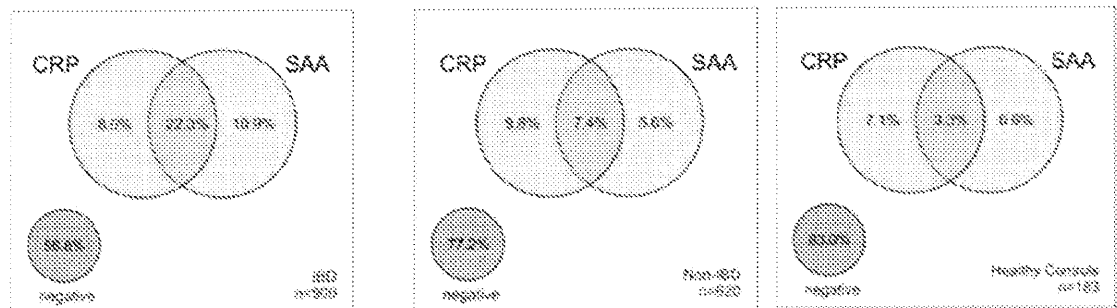


FIG. 17

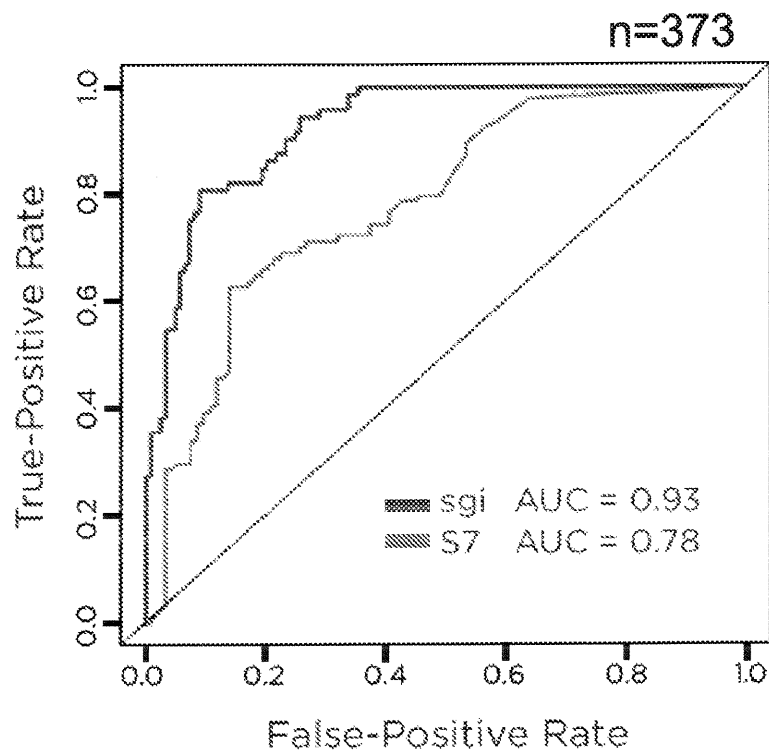
More IBD than Non-IBD patients are positive for two or more genetic markers

# positive genetic markers	% Non-IBD patients	% IBD patients
0	31.8%	27.1%
1	45.6%	42.0%
2	18.2%	23.7%
3	4.2%	6.9%
4	0.2%	0.3%

# positive genetic markers	# Non-IBD patients	# IBD patients
Fewer than 2	480 (77%)	622 (69%)
2 or more	140 (23%)	278 (31%)

This trend is statistically significant (Chi-square association test, $p=0.0004$).

IBD sgi Performs Better than IBD Serology 7 in Differentiating CD vs. UC



In a head-to-head comparison, IBD sgi demonstrated improved overall performance over IBD Serology 7 in differentiating CD vs. UC

	Absolute Improvement	Relative Improvement
CD / UC (AUC)	15%	19%

FIG. 19

Overall Diagnostic Performance

IBD sgi vs. IBD Serology 7

In a head-to-head comparison of diagnostic performance, IBD sgi demonstrated absolute and relative improvements over IBD Serology 7

n=373

	IBD sgi	IBD Serology 7	Absolute Improvement	Relative Improvement
IBD vs. Non-IBD (AUC)	0.87	0.80	7%	9%
CD / UC (AUC)	0.93	0.78	15%	19%

IBD vs nonIBD

	AUC	95%CI
sgi	0.87	0.8442 – 0.9070
Ser7	0.80	0.7682 – 0.8507

p=0.0001

CD vs UC

	AUC	95%CI
sgi	0.93	0.8585 – 0.9354
Ser7	0.78	0.7144 – 0.8403

p<0.0001

FIG. 20