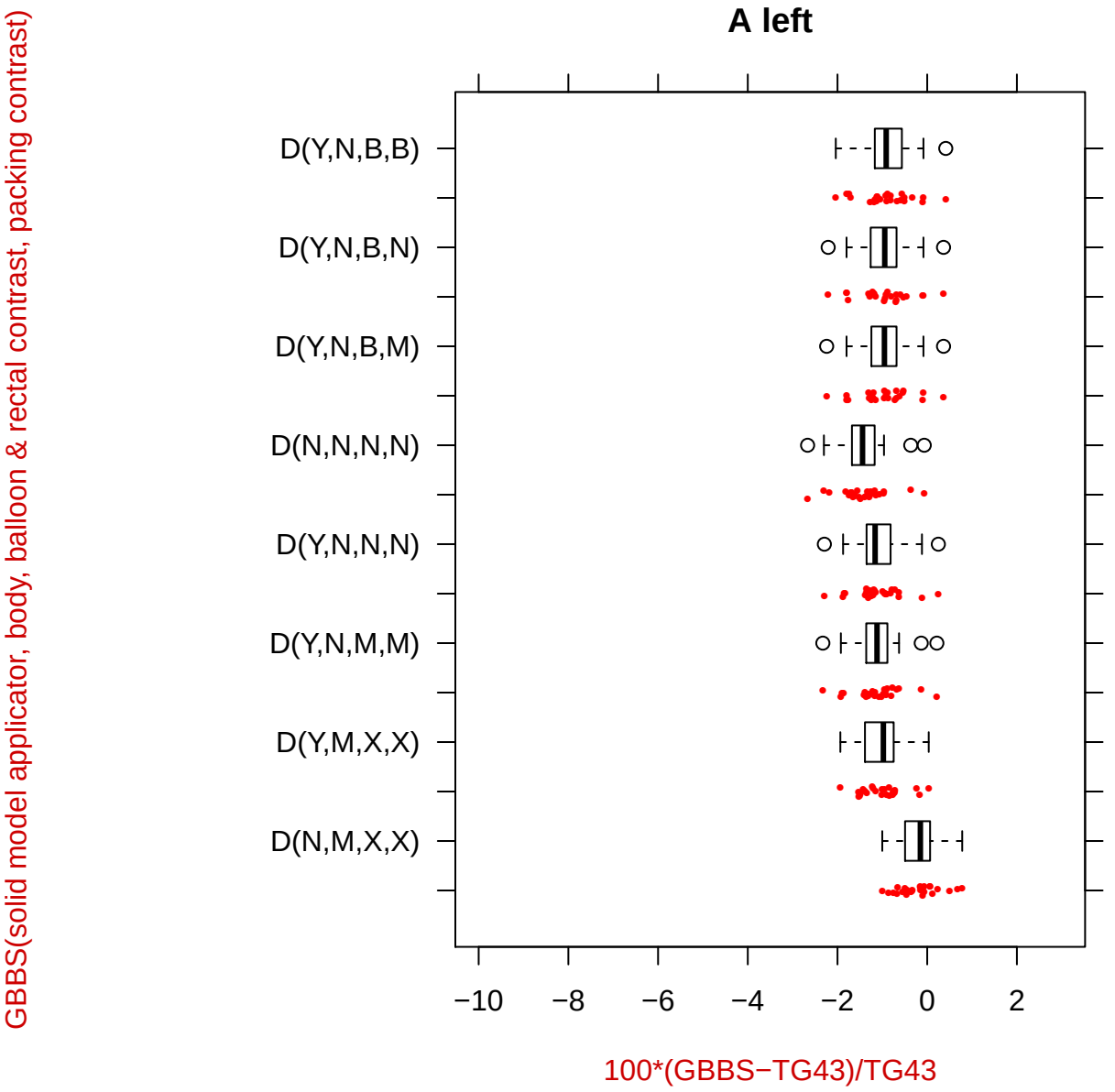
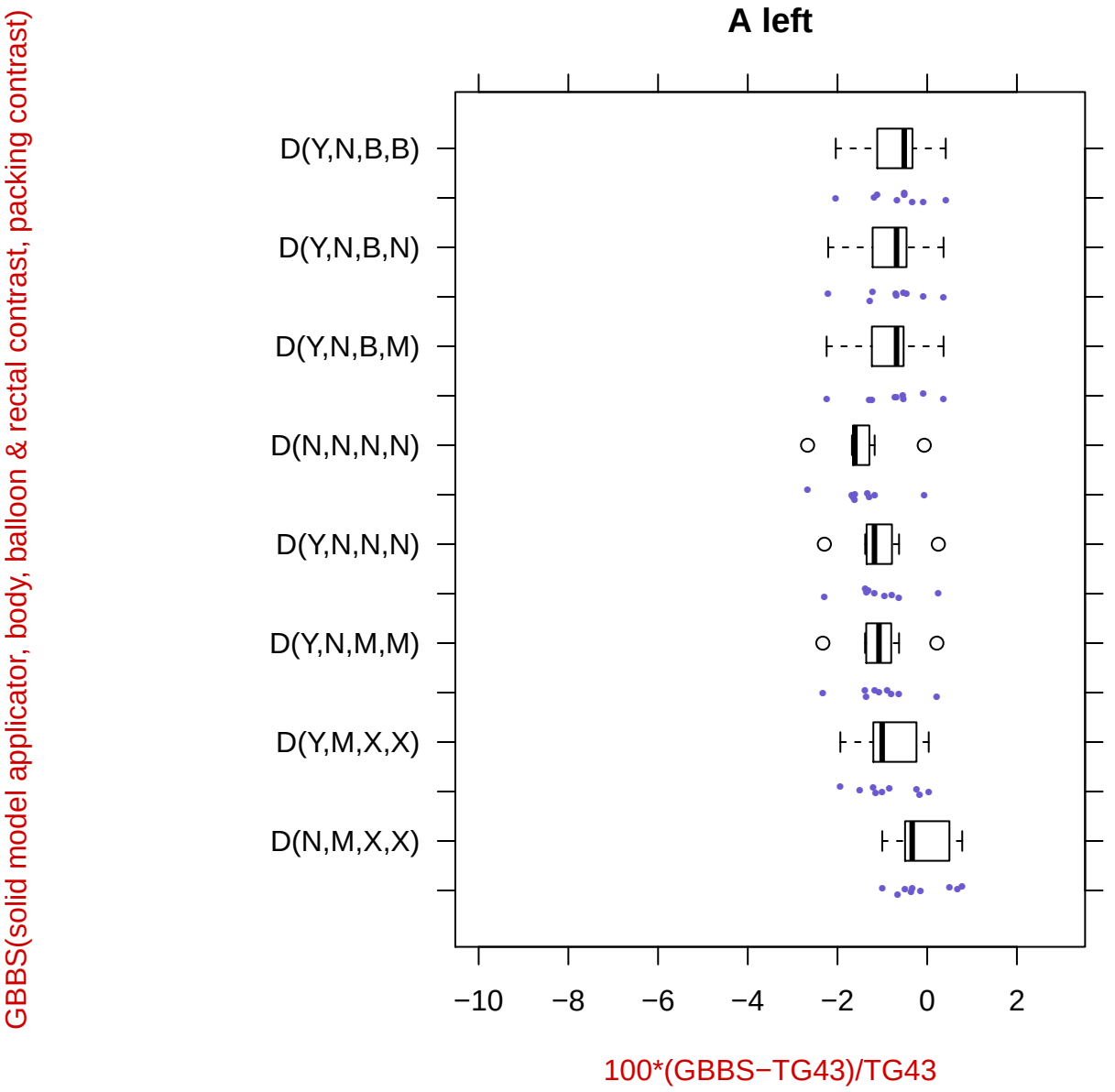
The following pages contain the listed calculations for all patients at each point in box and scatter plots

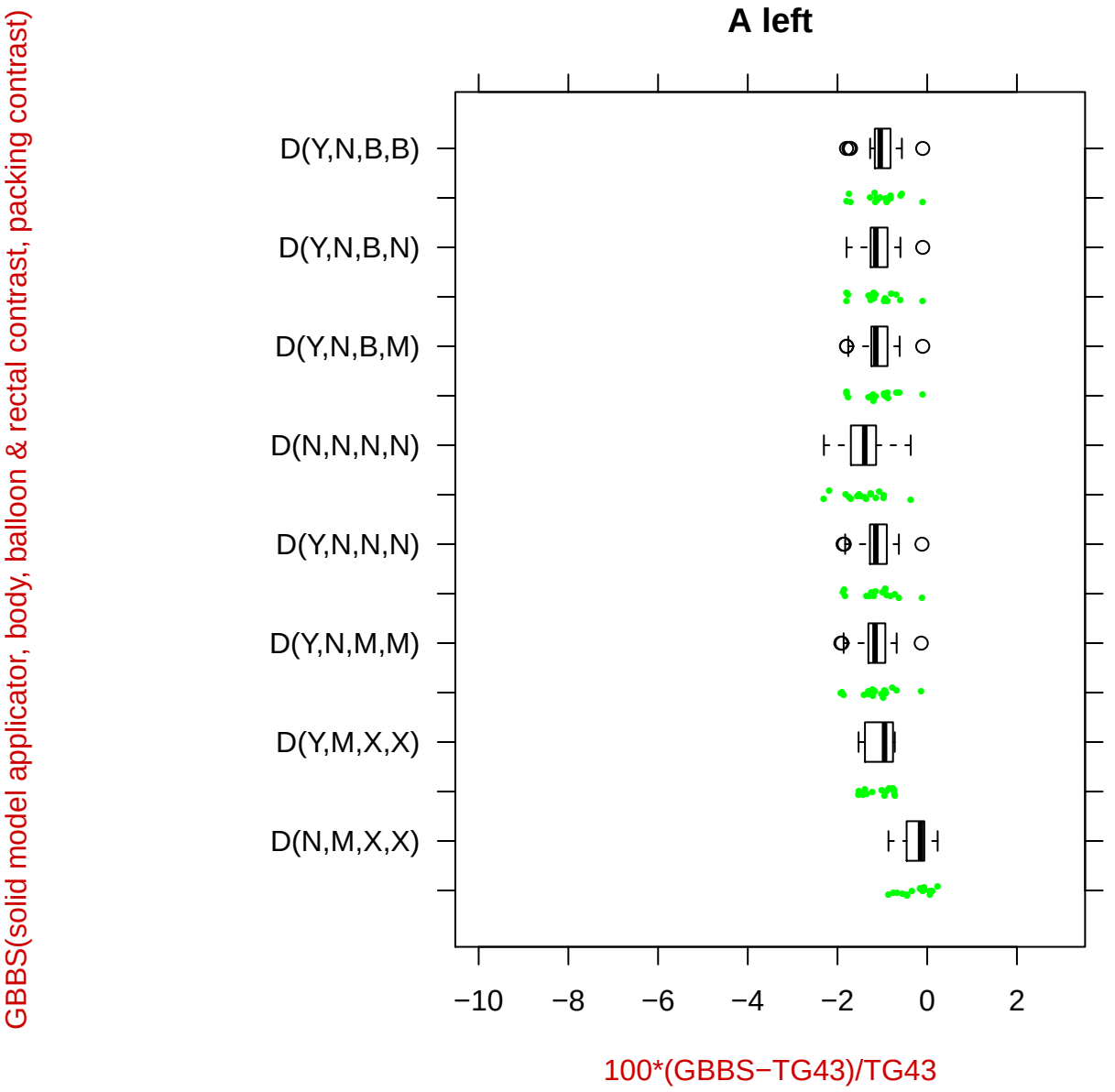
short name	function name	solid model applicator	body	balloon & rectal contrast	packing contrast
balloon & rectal, packing = Bone	D(Y, N, B, B)	Y	None	Bone	Bone
balloon & rectal = Bone	D(Y, N, B, N)	Y	None	Bone	None
balloon & rectal = Bone, packing = Muscle	D(Y, N, B, M)	Y	None	Bone	Muscle
noApp, CT	D(N, N, N, N)	N	None	None	None
CT	D(Y, N, N, N)	Y	None	None	None
balloon & rectal, packing = Muscle	D(Y, N, M, M)	Y	None	Muscle	Muscle
body = Muscle	D(Y, M, X, X)	Y	Muscle	NA	NA
noApp, body = Muscle	D(N, M, X, X)	N	Muscle	NA	NA

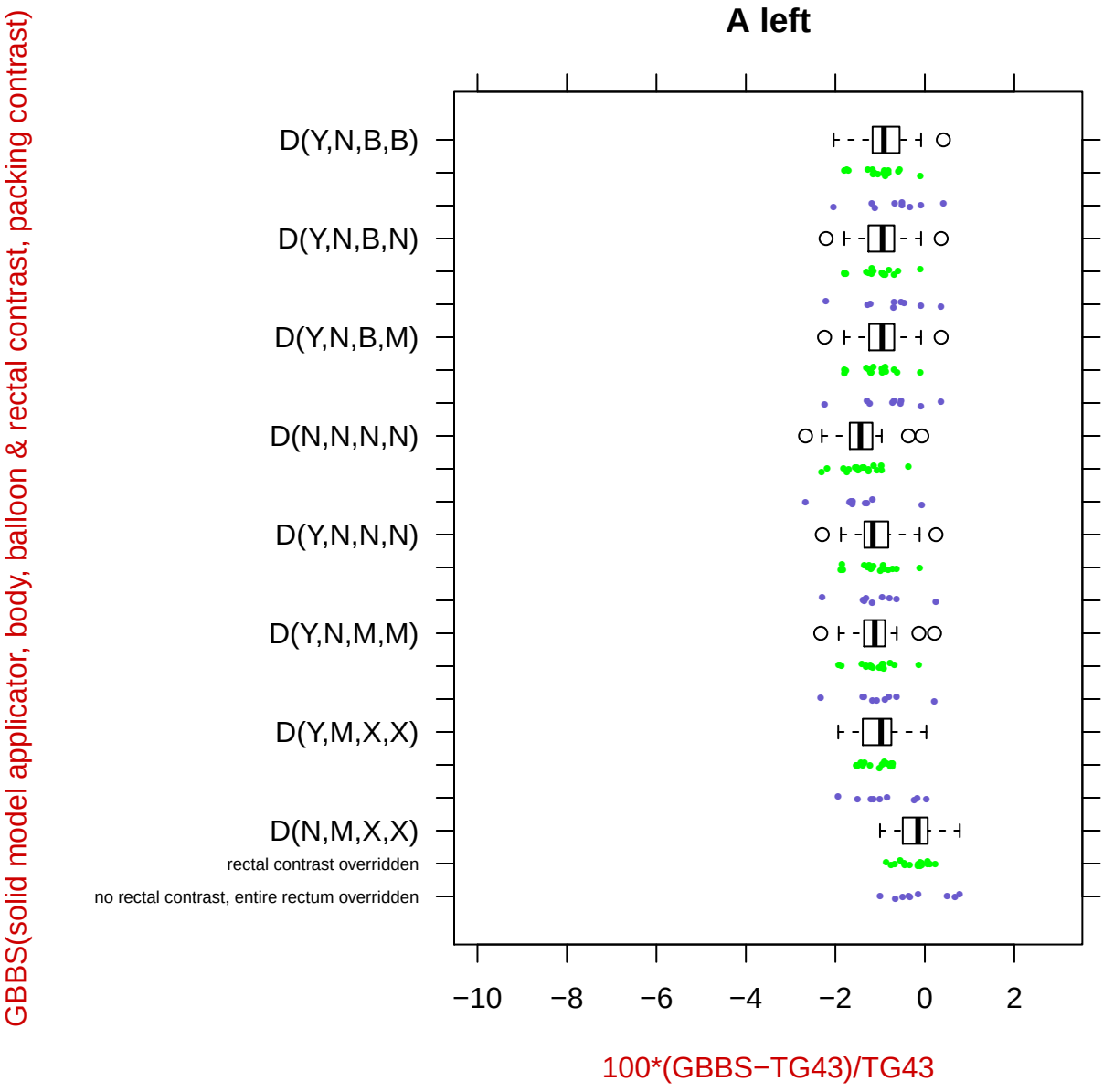
```
D(solid model applicator, body, balloon & rectal contrast, packing contrast)
N = None
Y = Yes
X = not applicable
M = 1 g/cc Muscle
B = 2.25 g/cc Bone
```

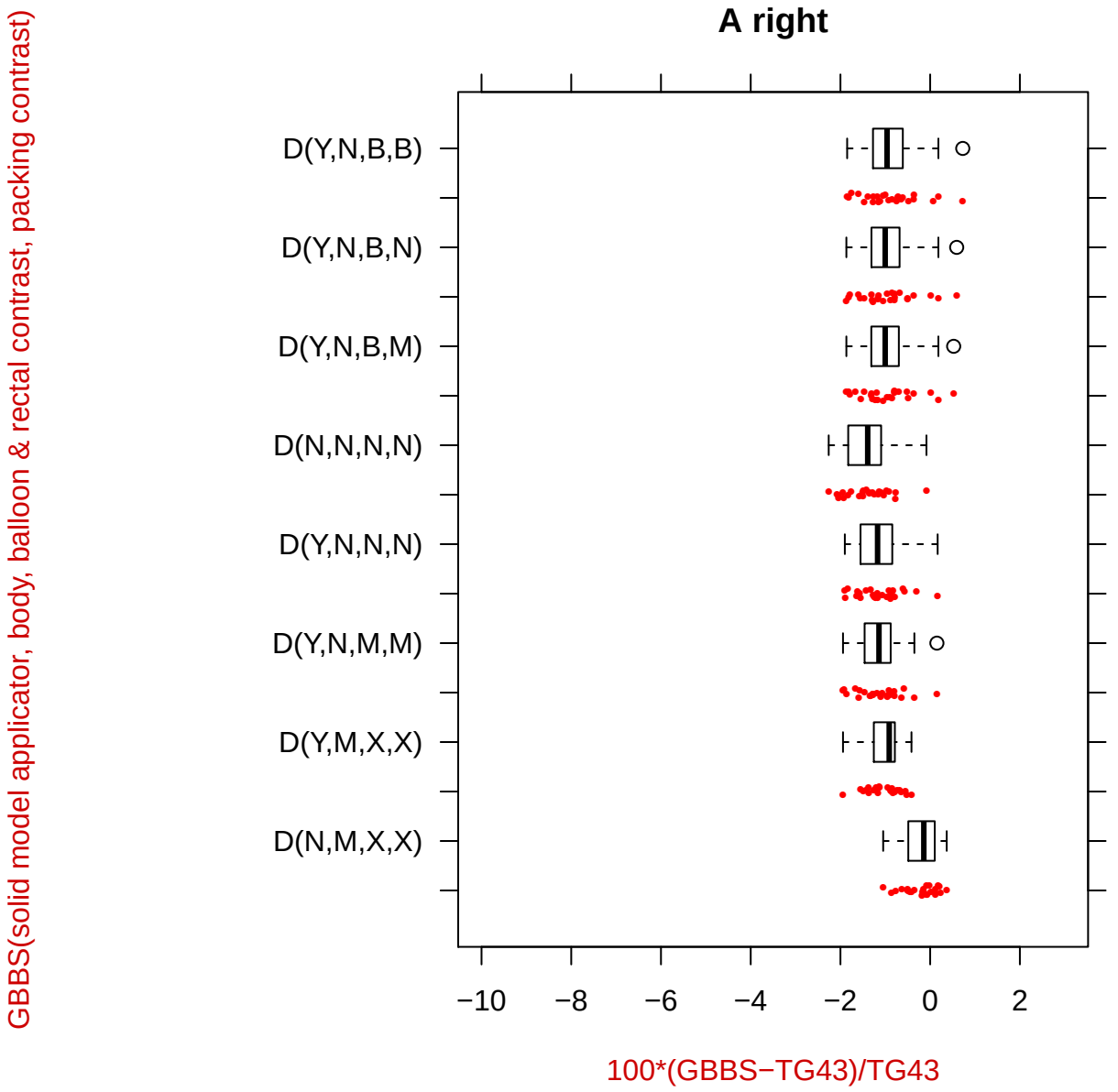
- all patients
- rectal contrast was overridden
- no rectal contrast, so entire rectum was overridden

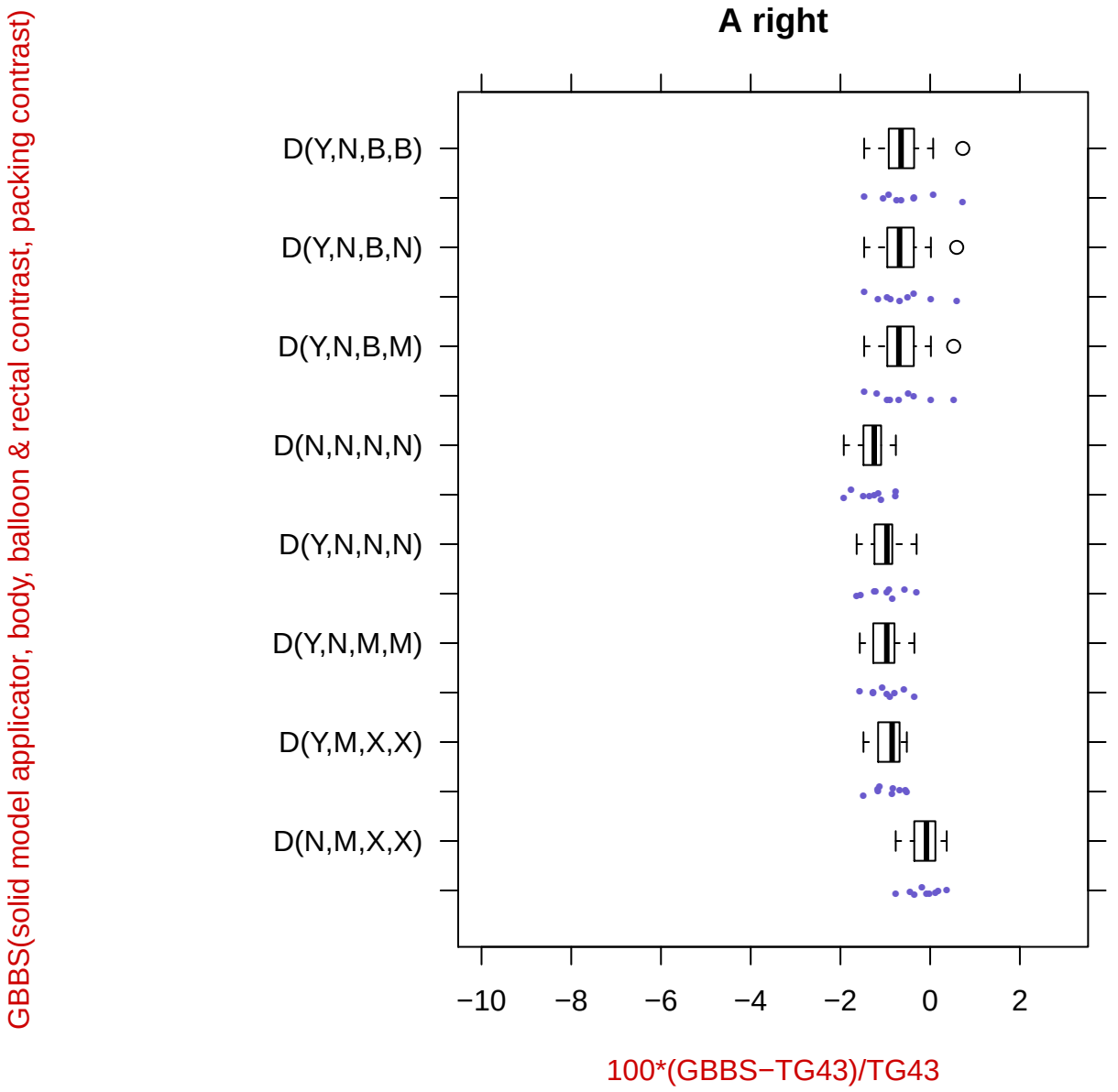

A left
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)

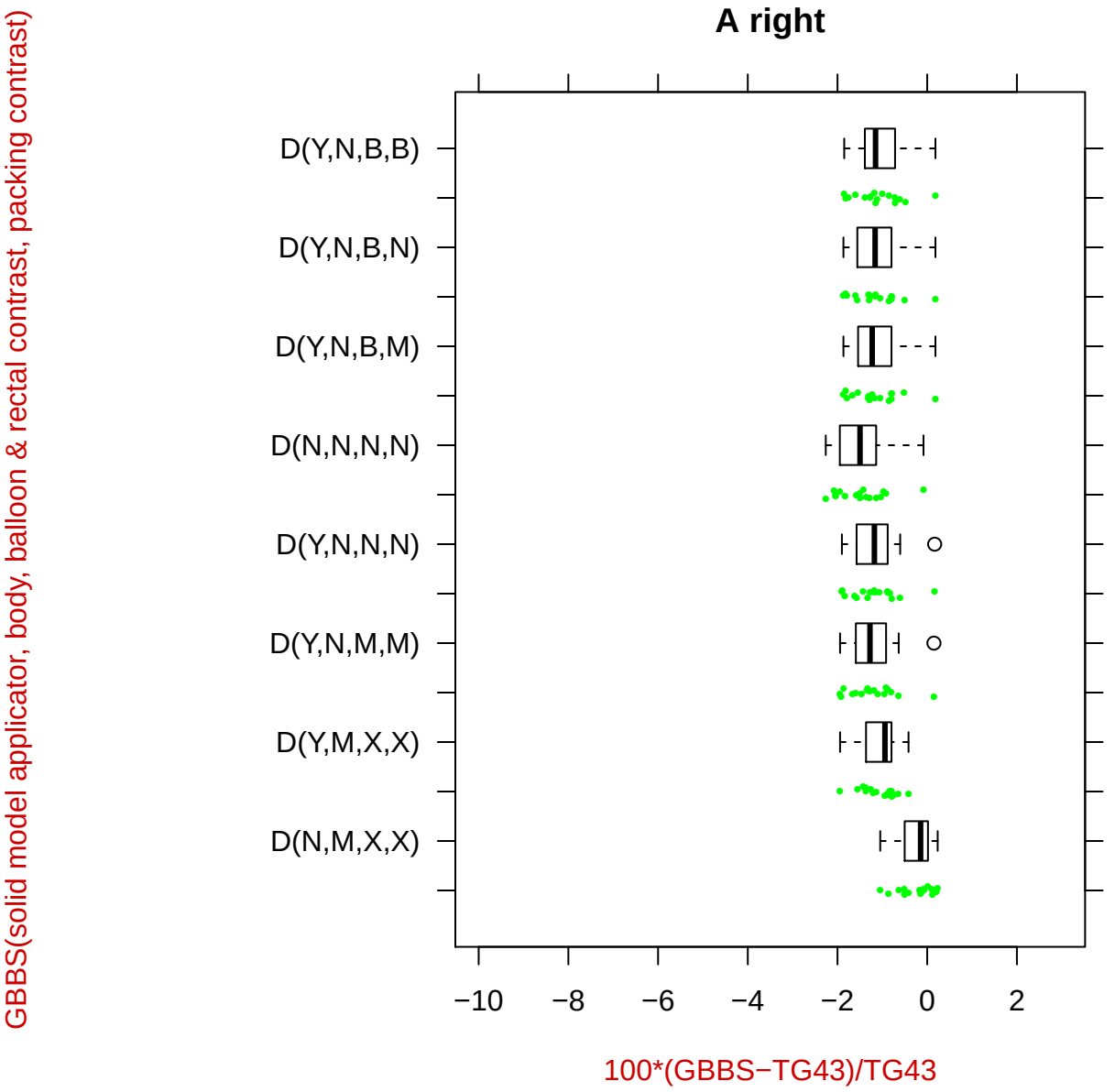

A left
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

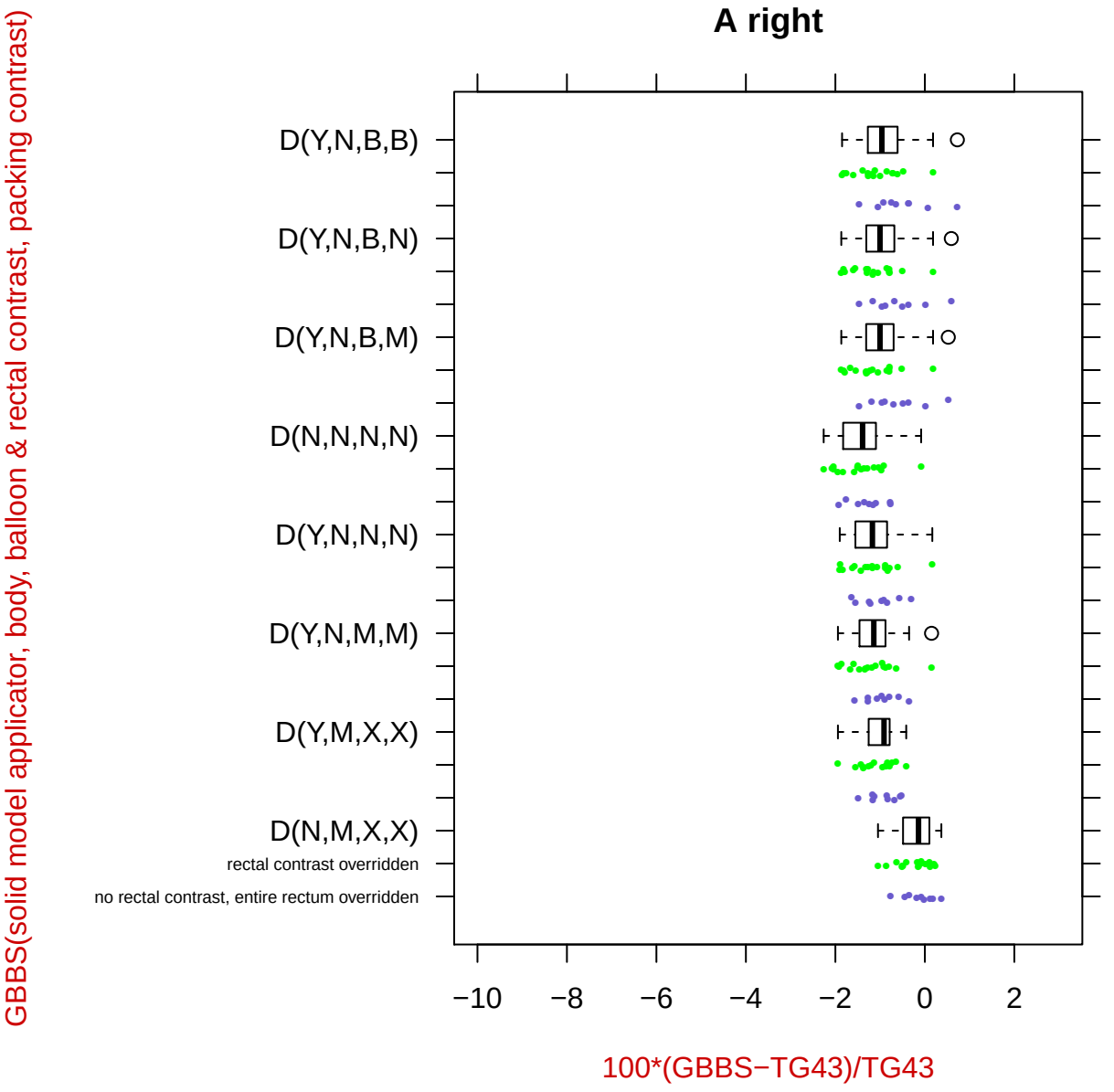

A left
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

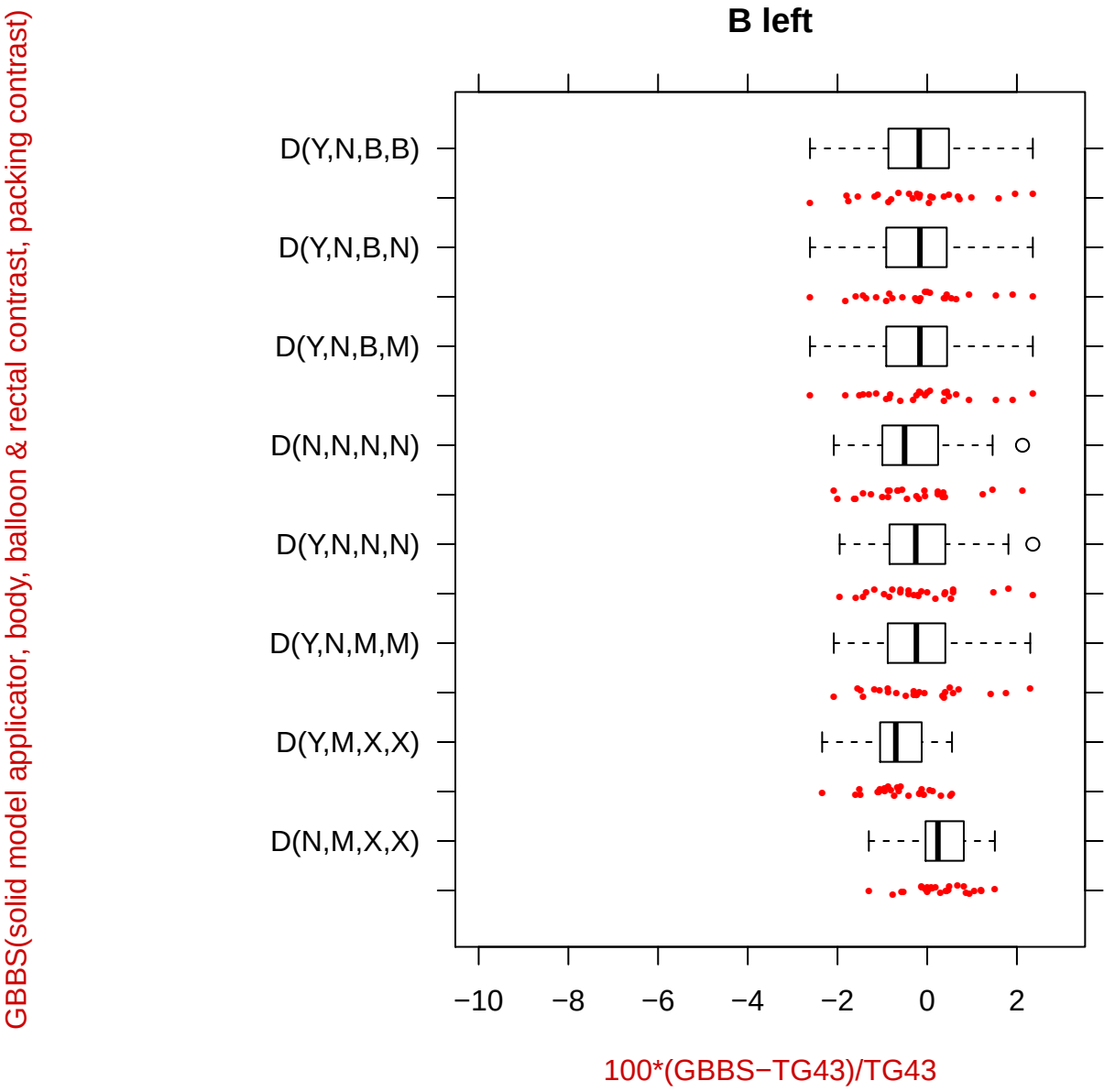

A left
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

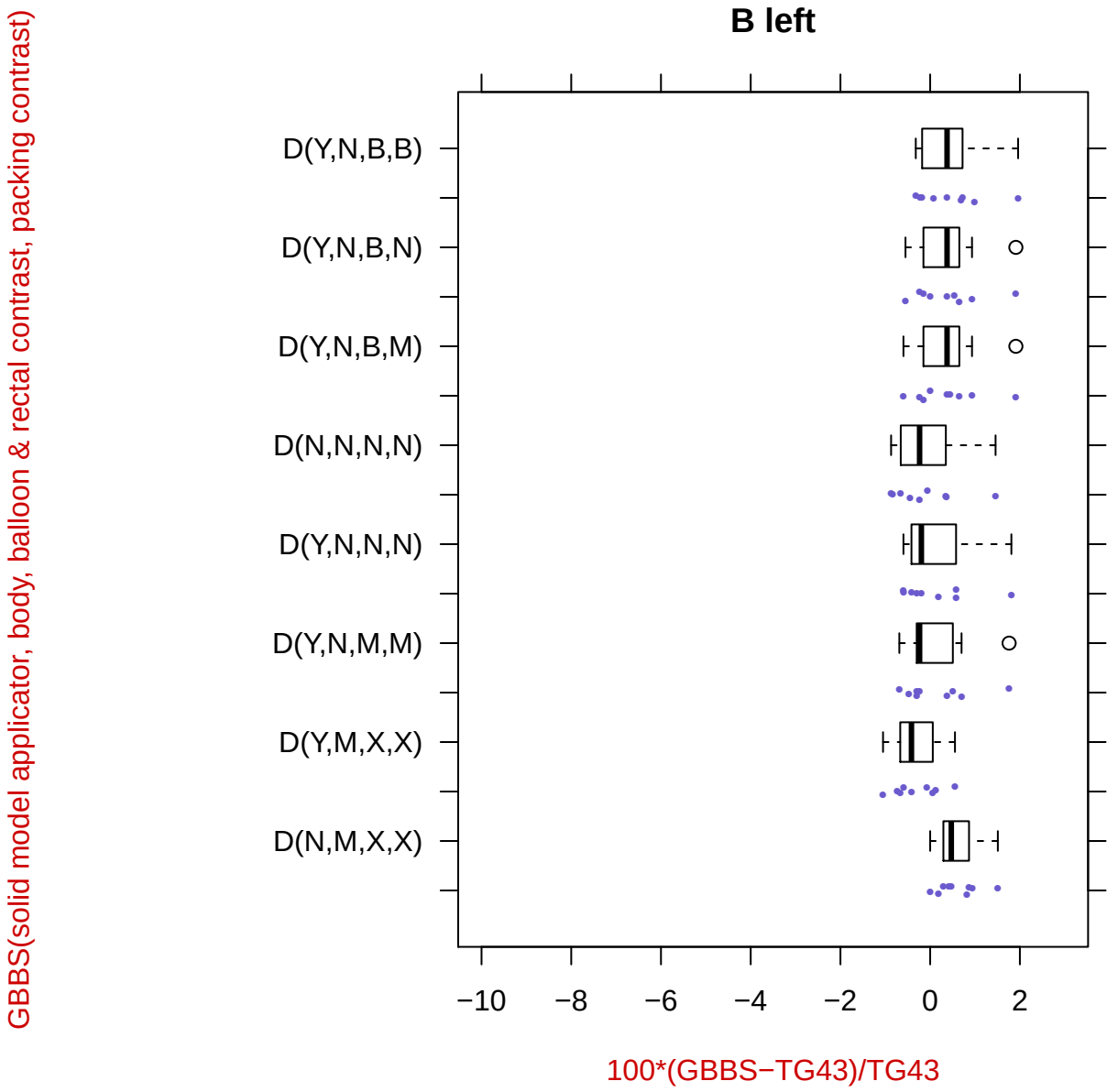

A right
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

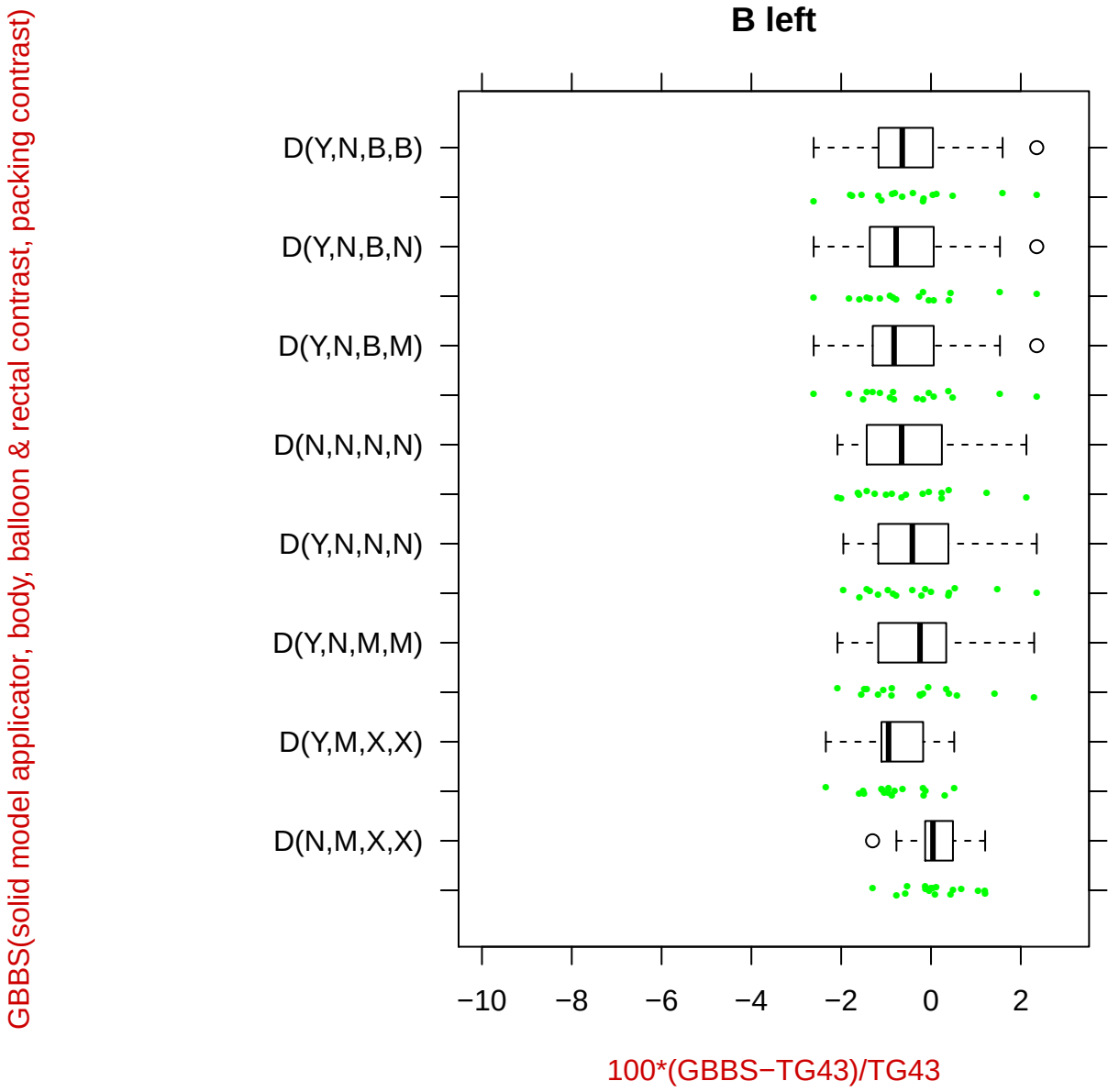

A right
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

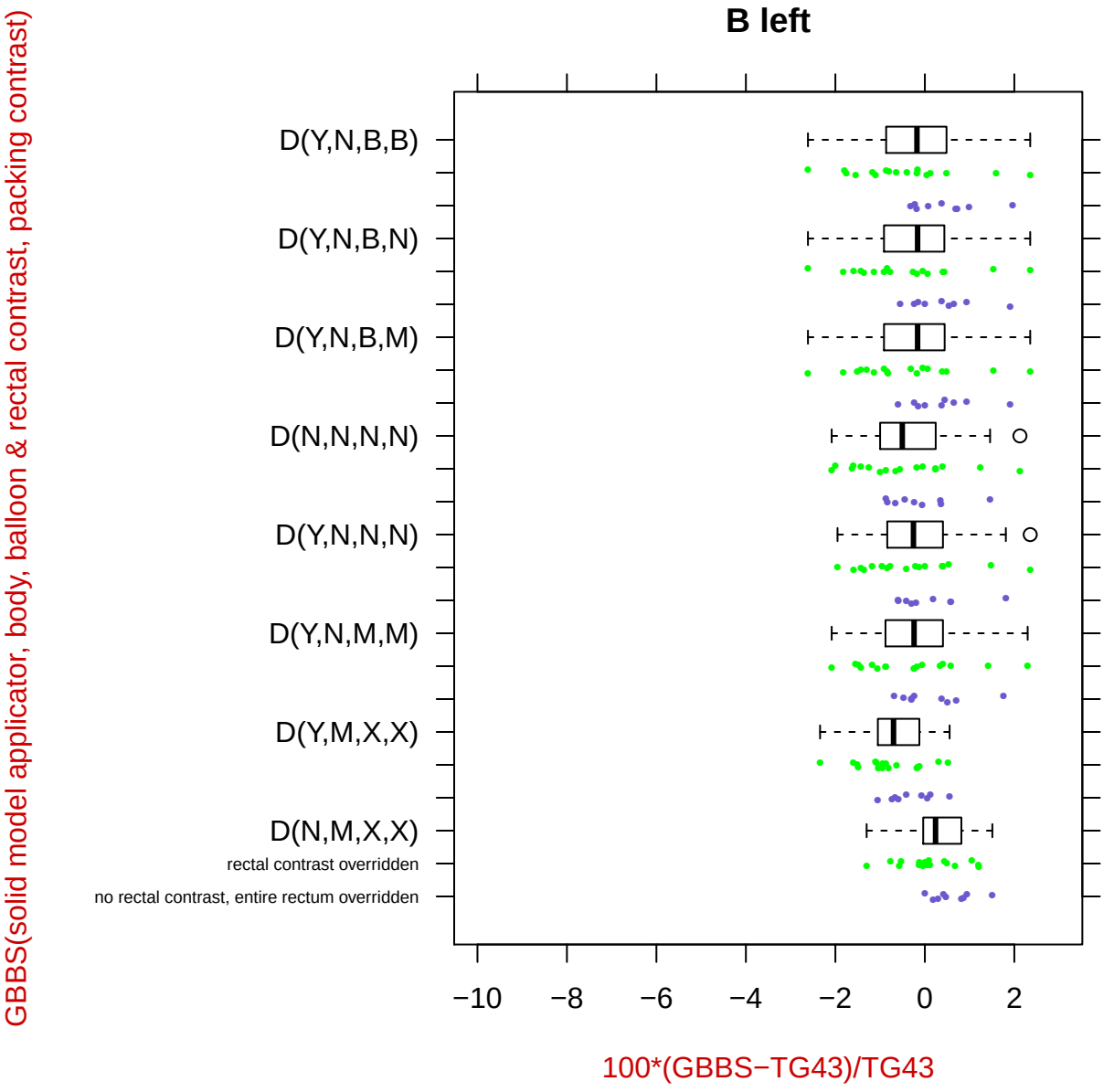

A right
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

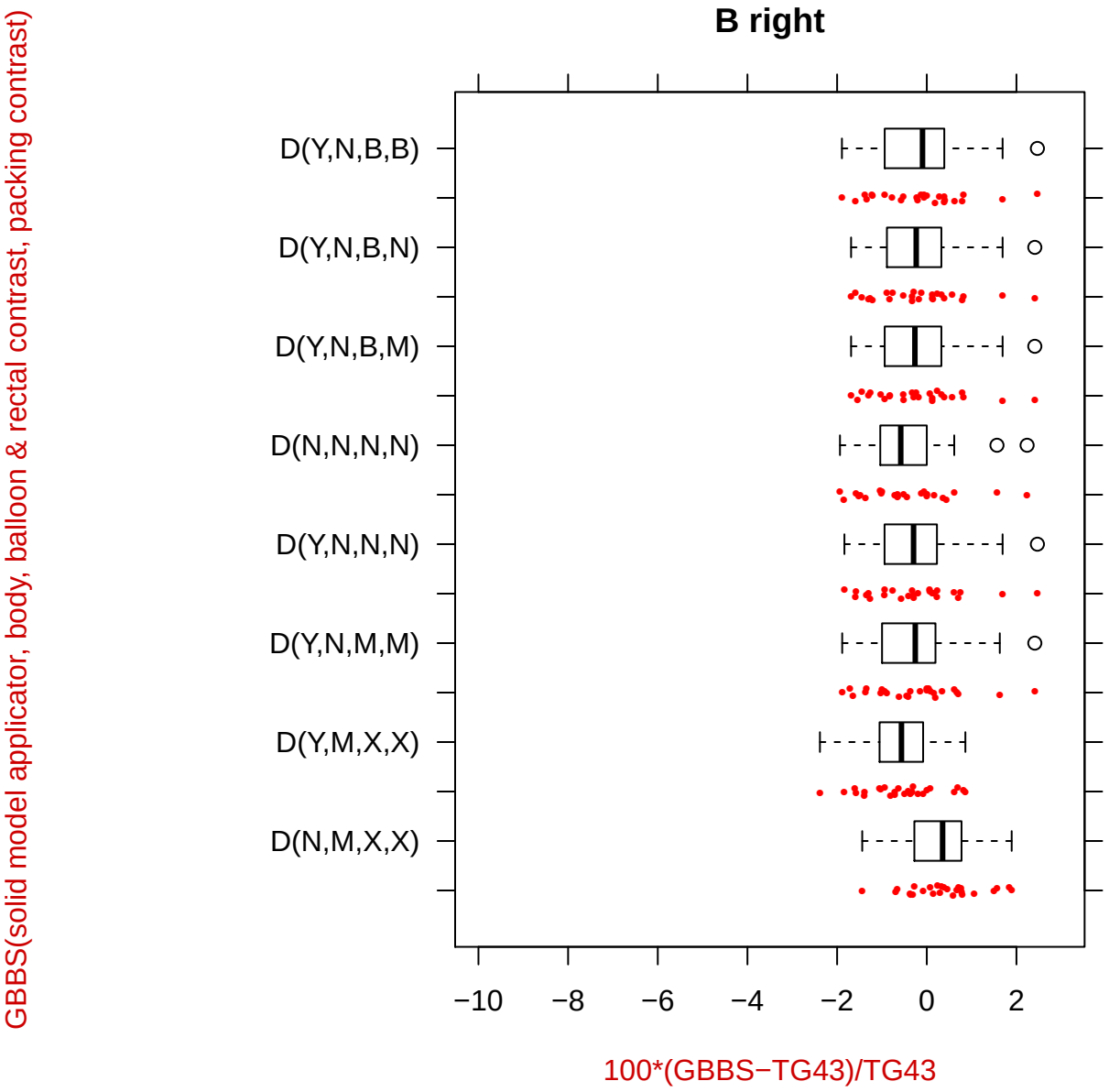

A right
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

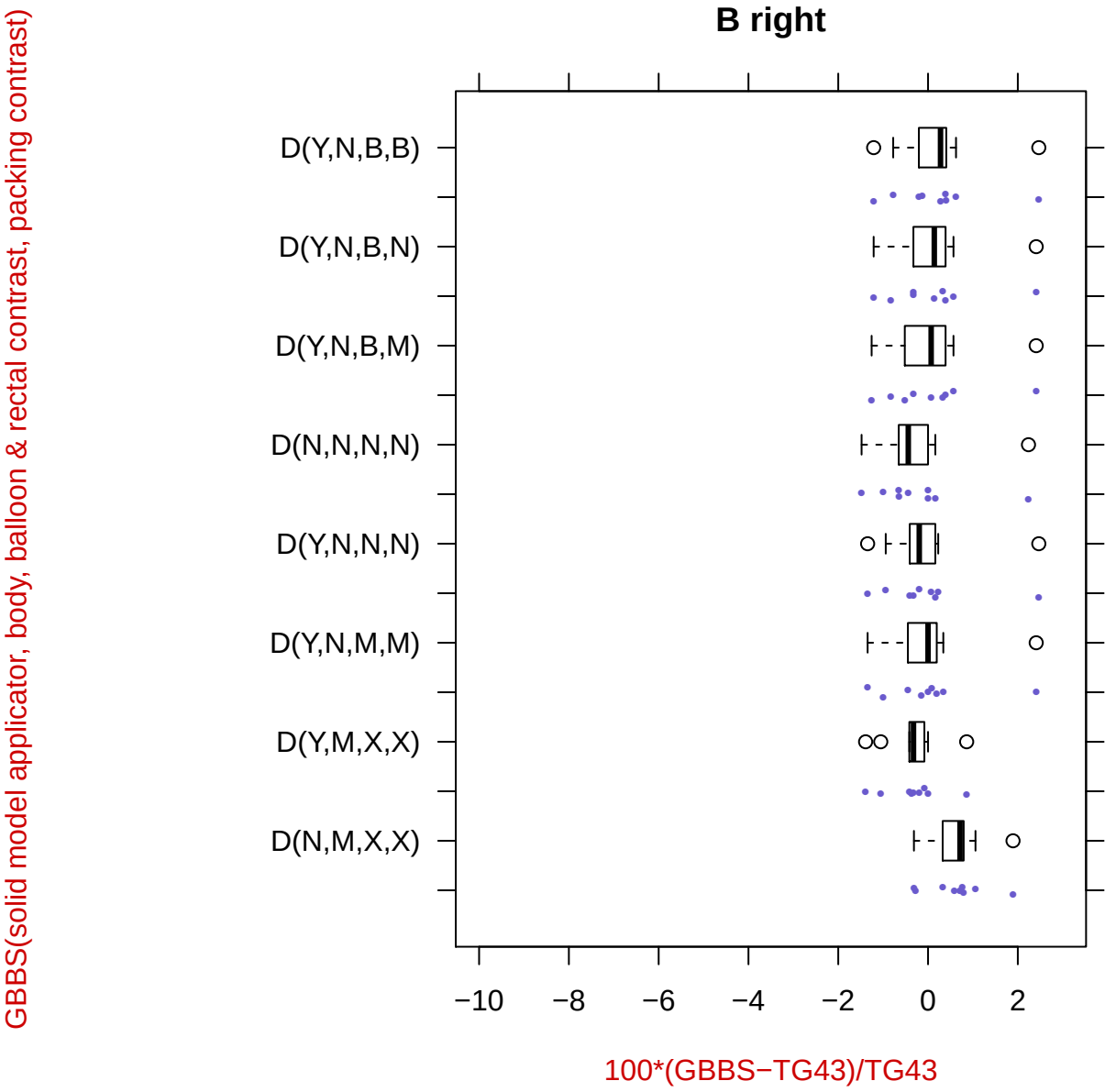

B left
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)

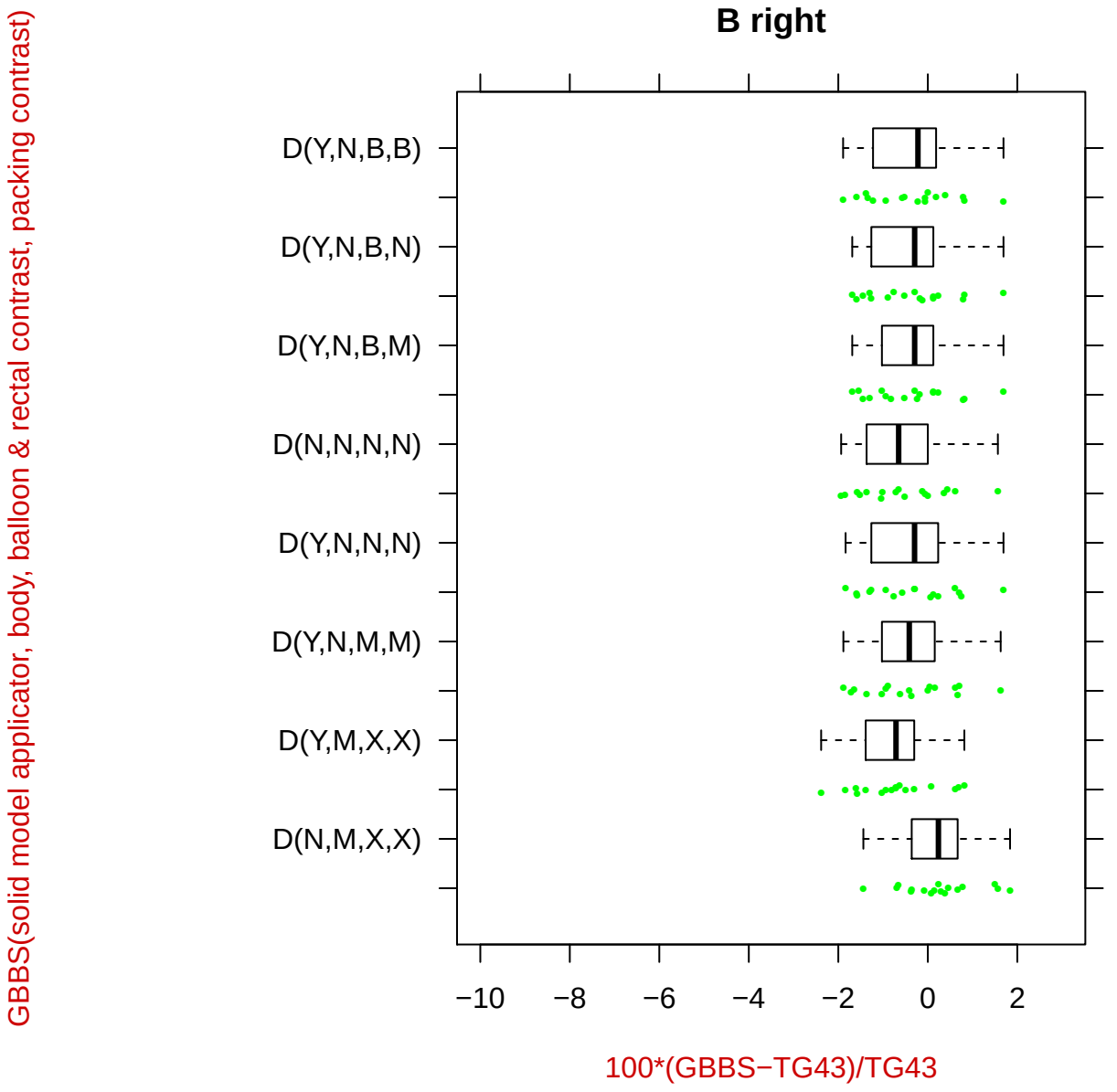

B left
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)

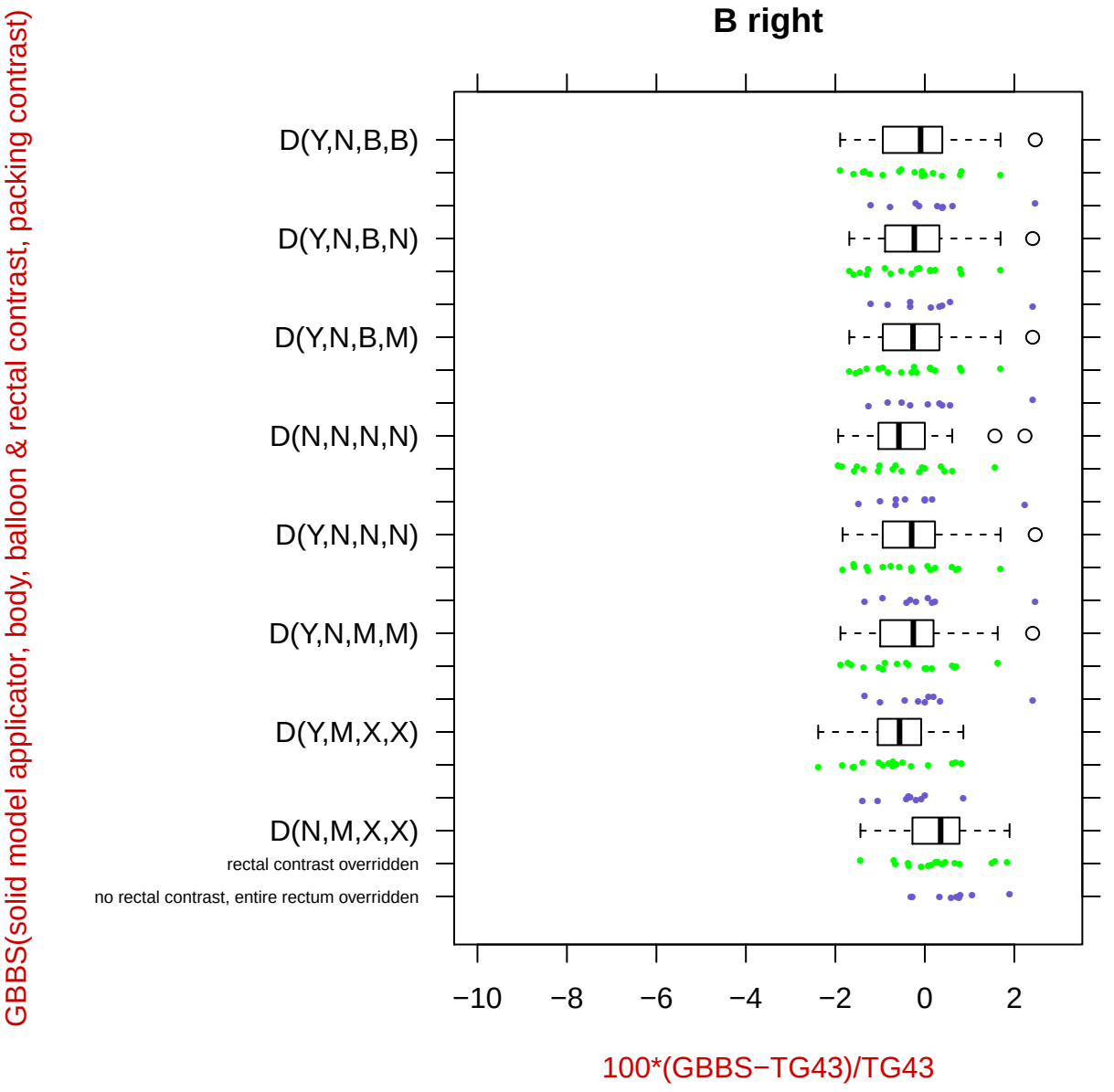

B left
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

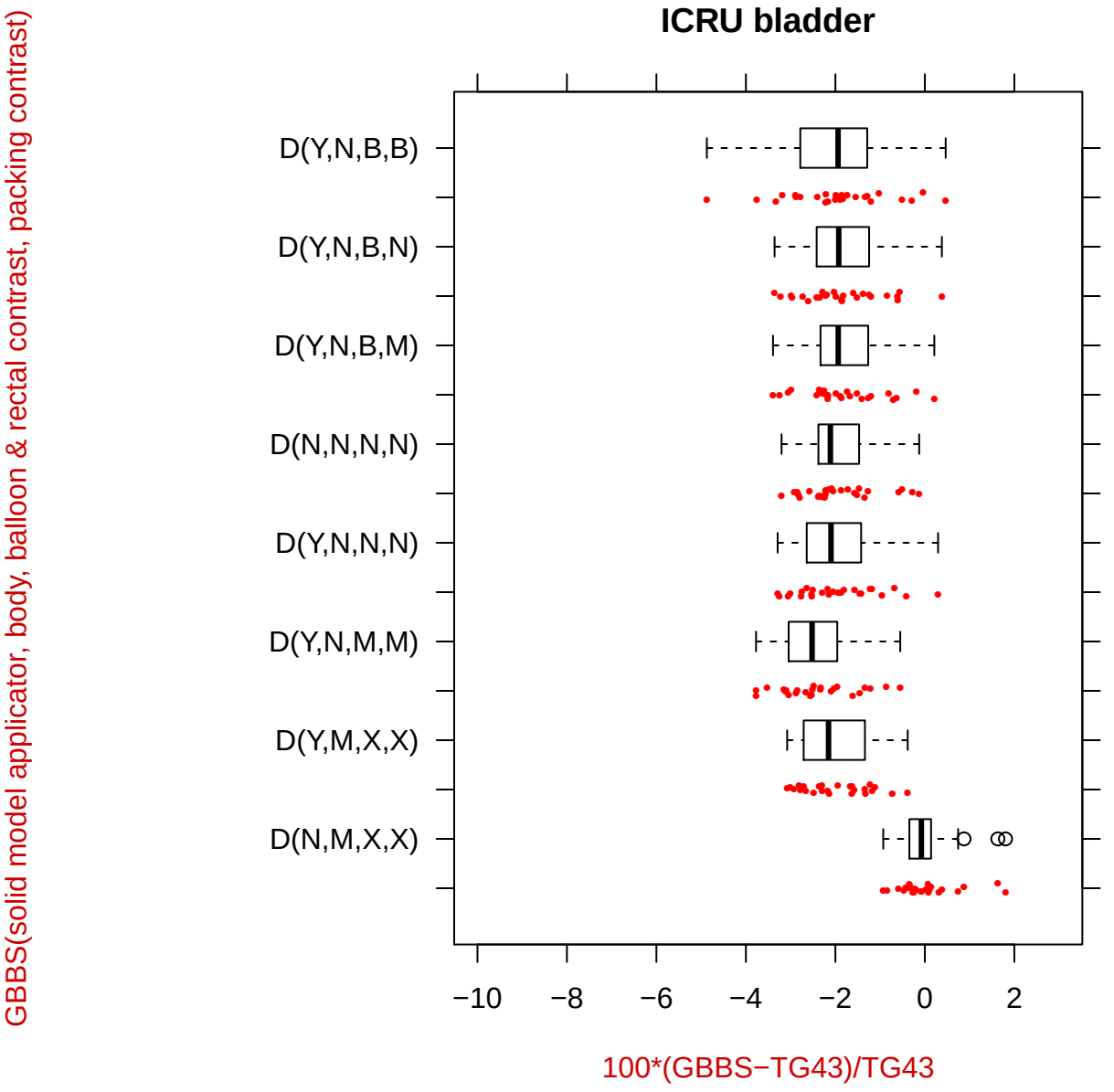

B left
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

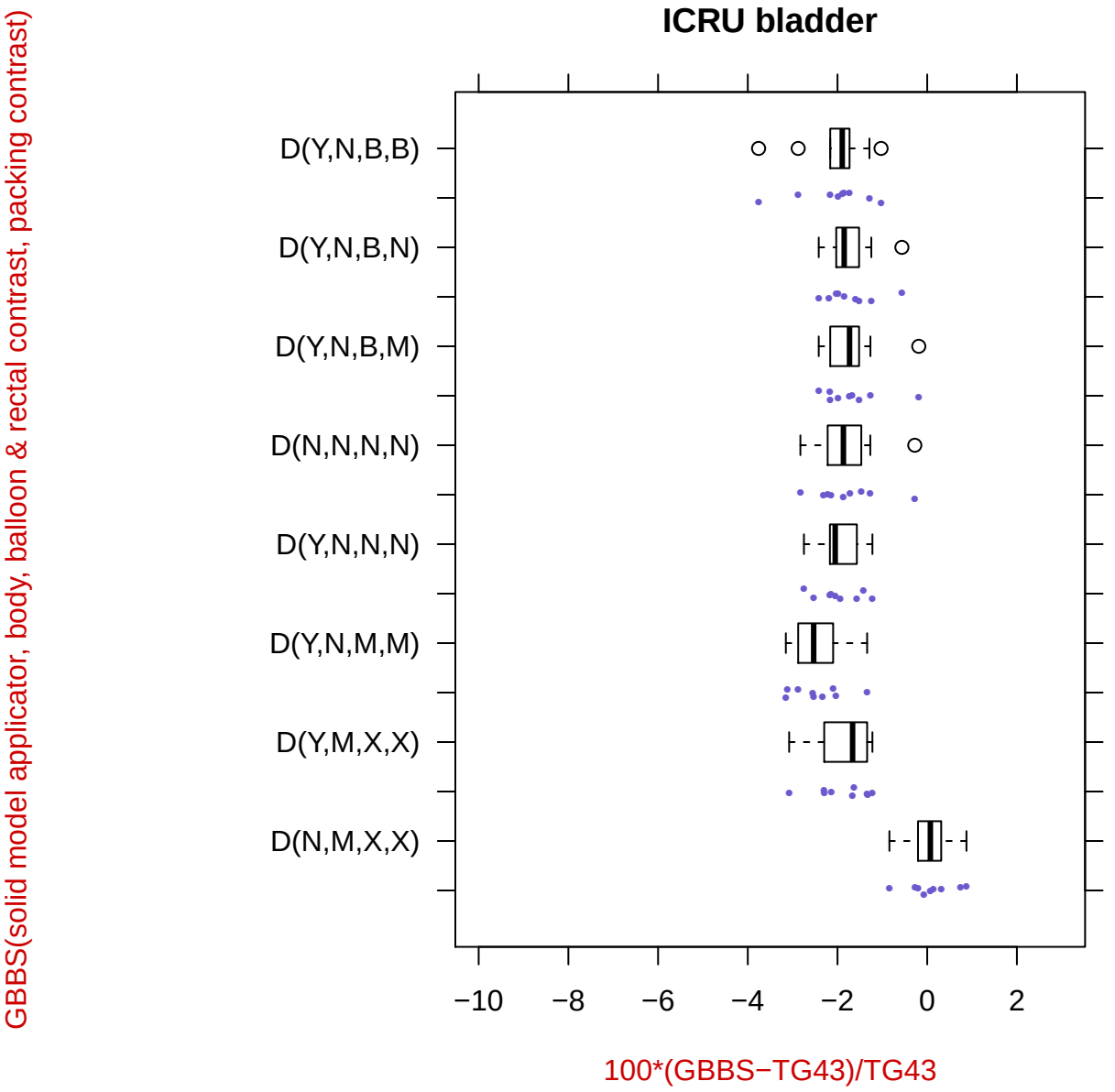

B right
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)

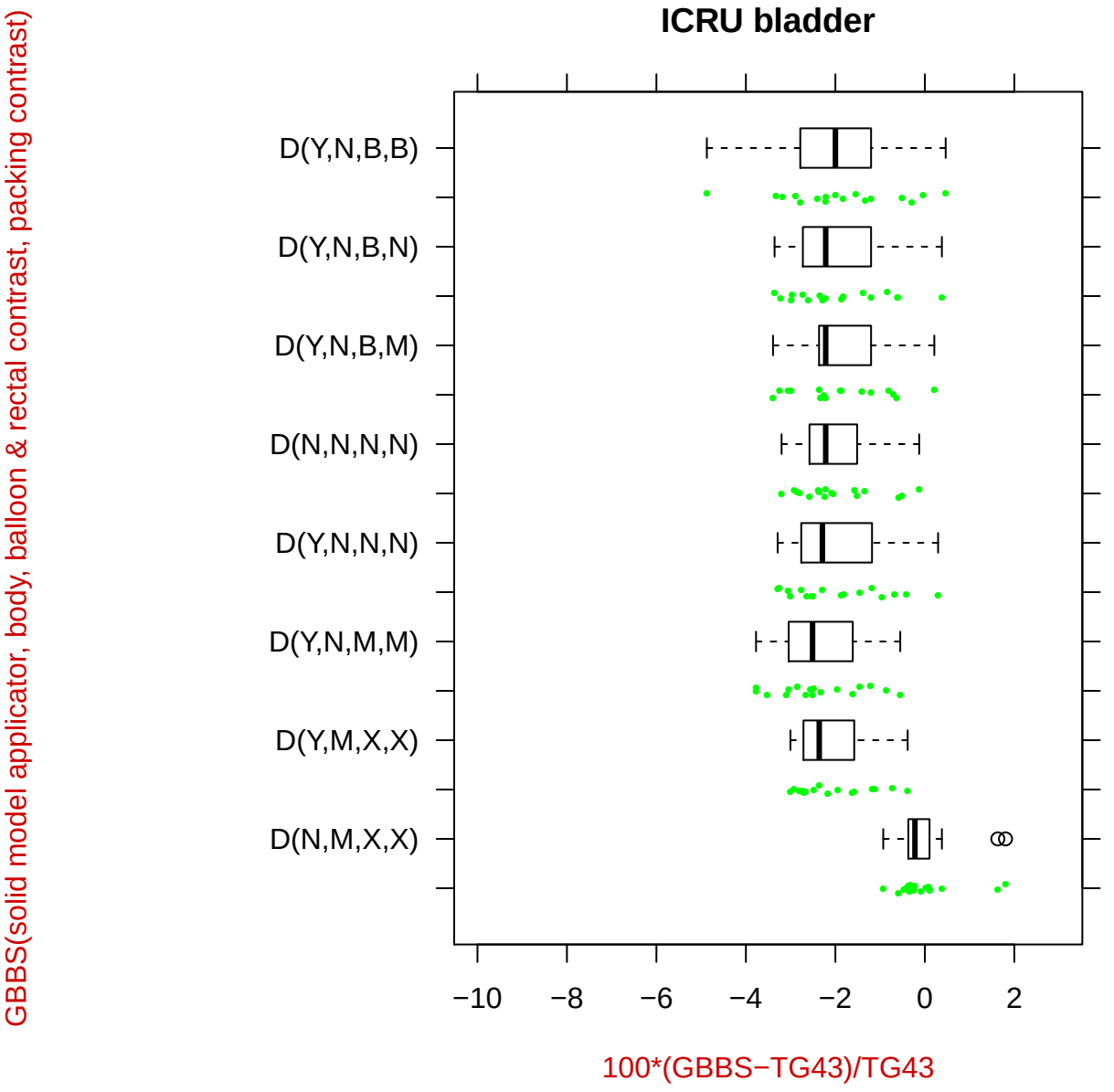

B right
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)

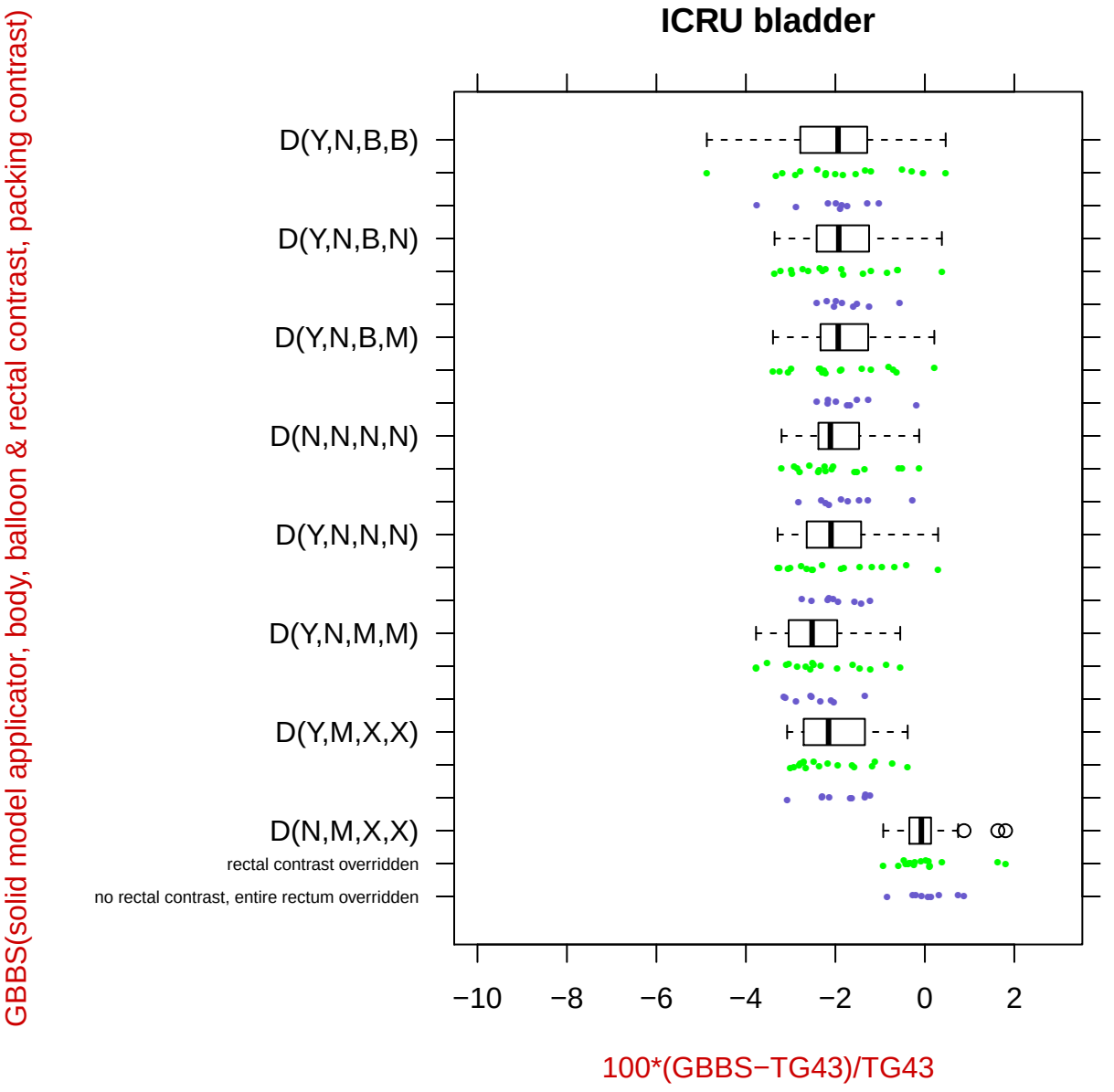

B right
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

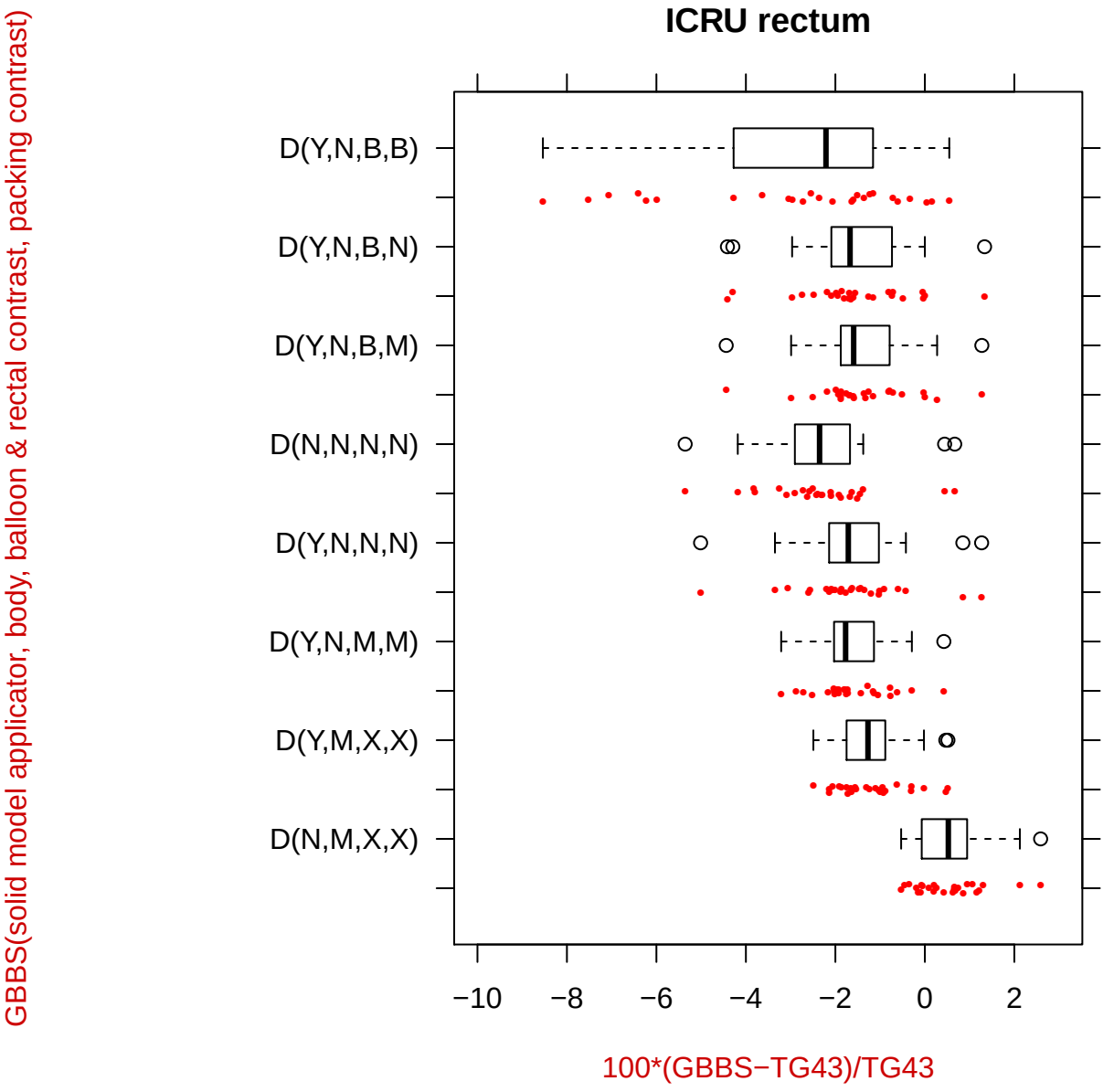

B right
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

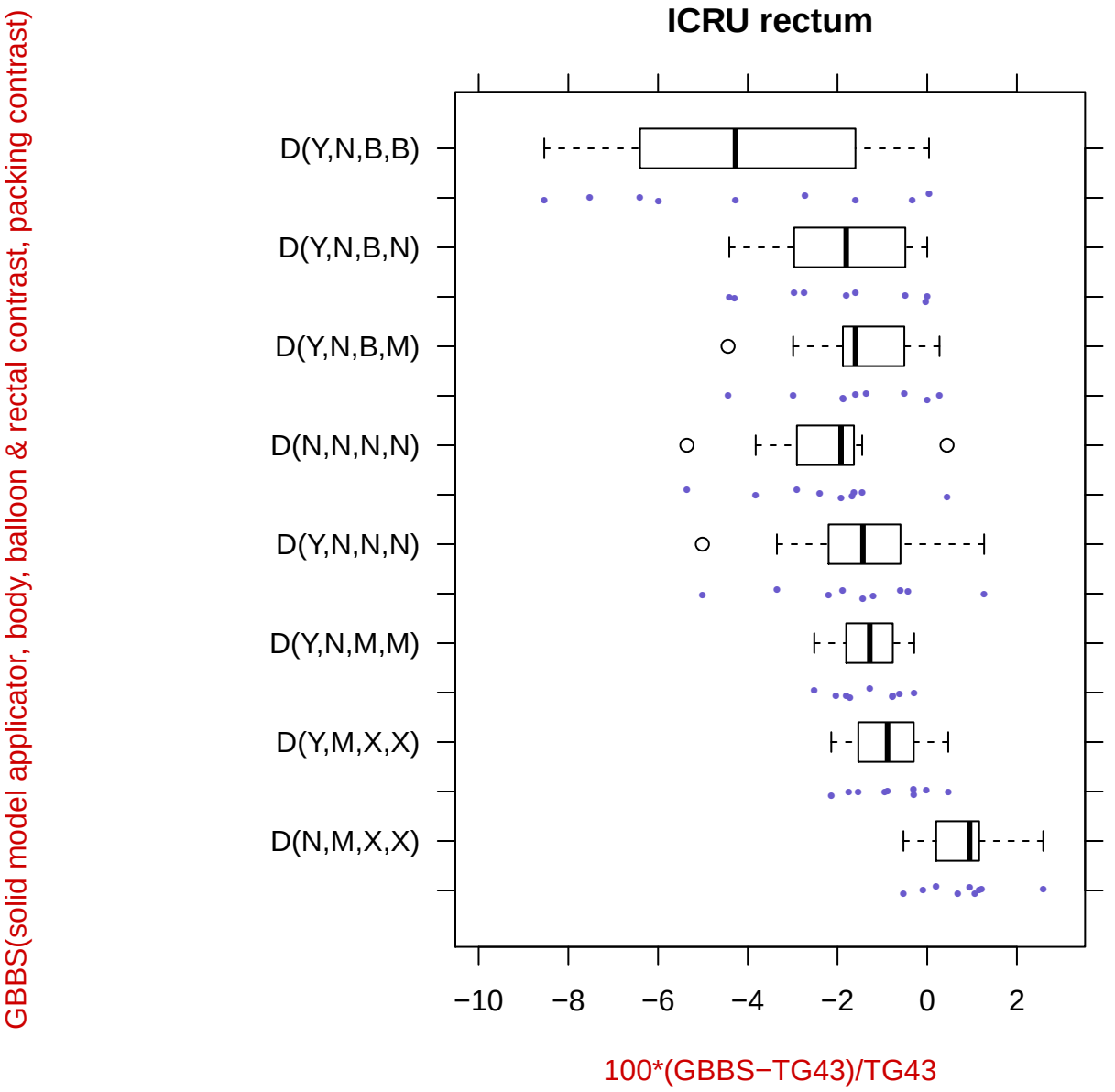

ICRU bladder
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

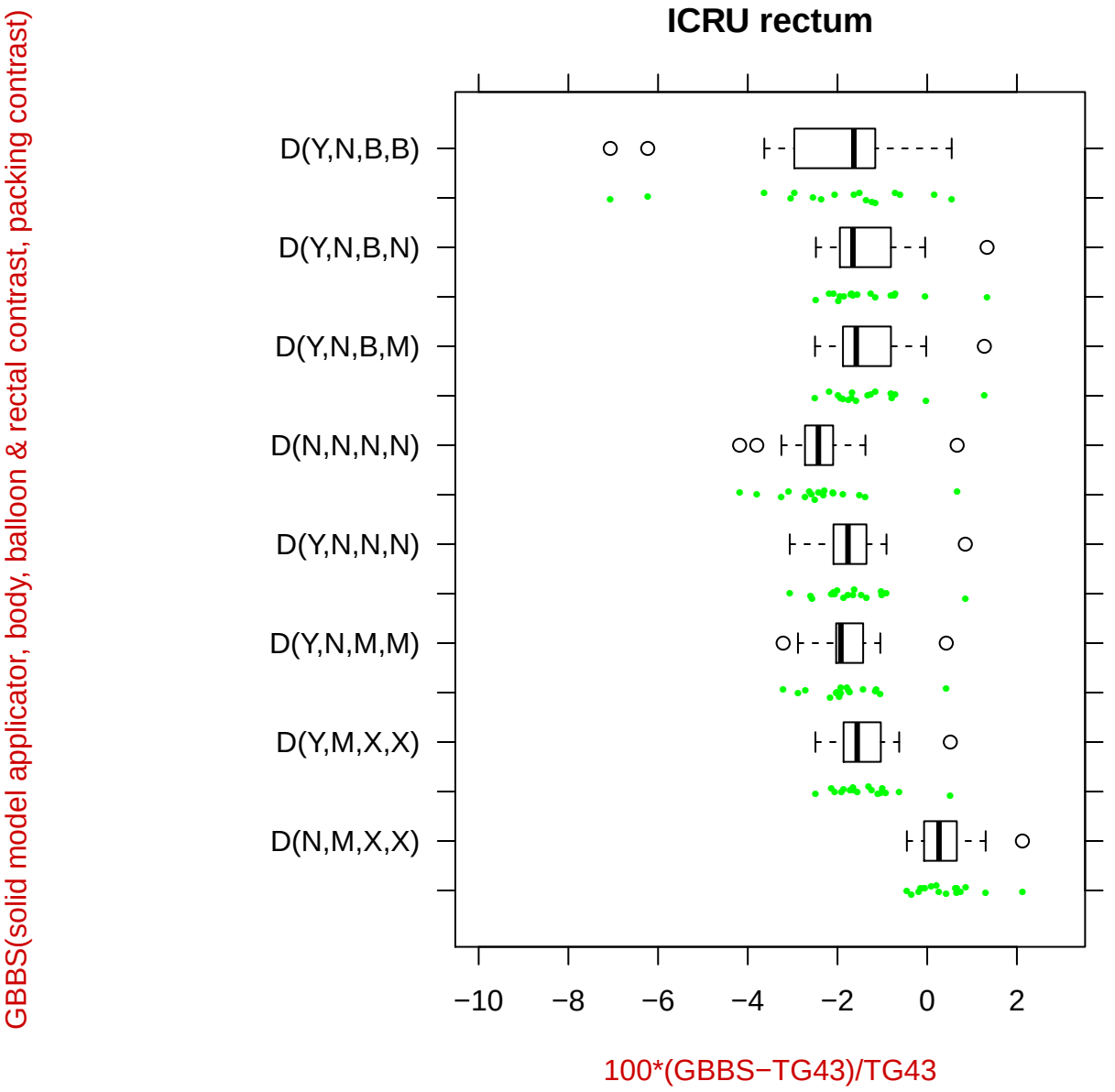

ICRU bladder
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

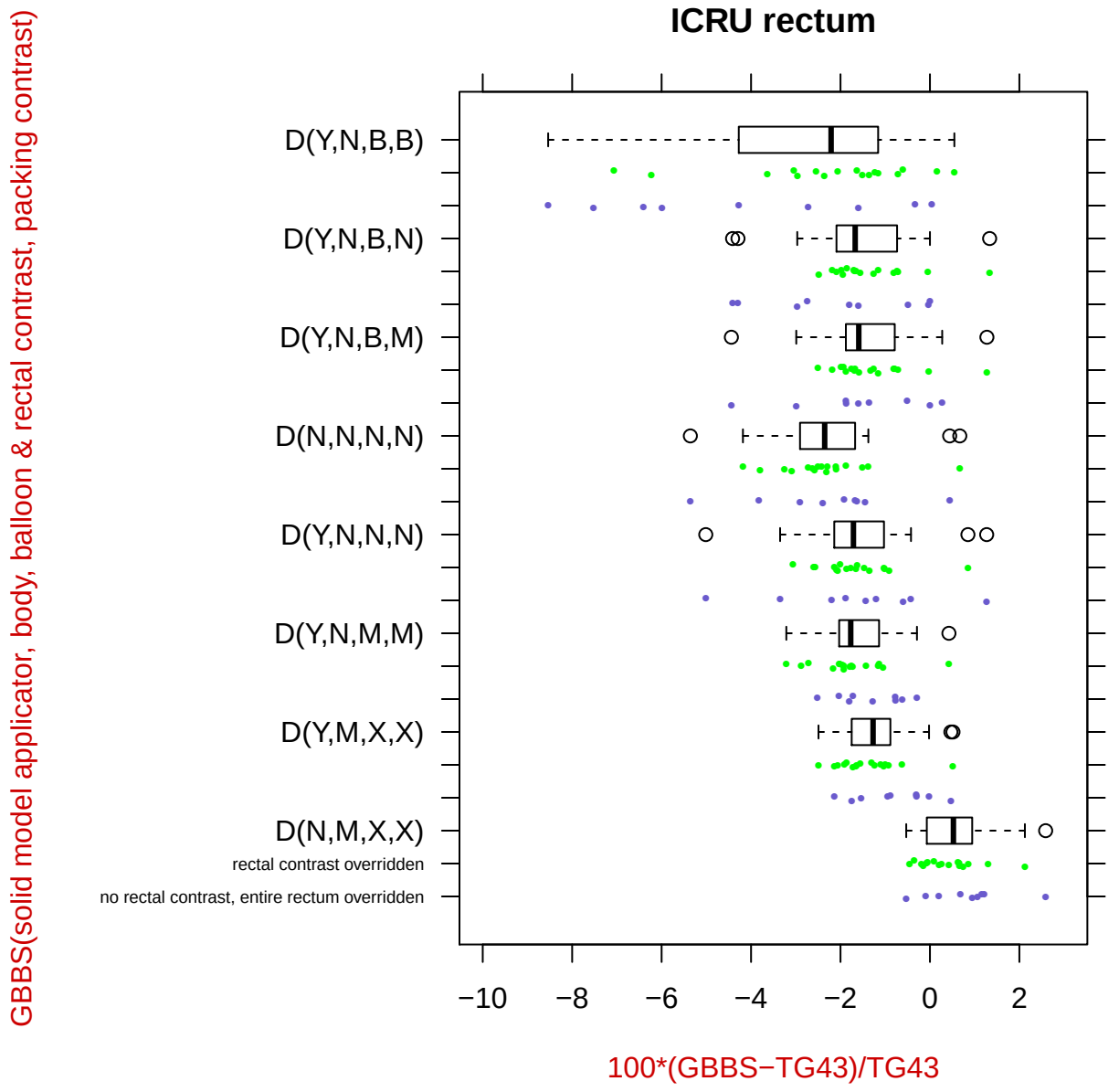

ICRU bladder
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
100*(GBBS−TG43)/TG43

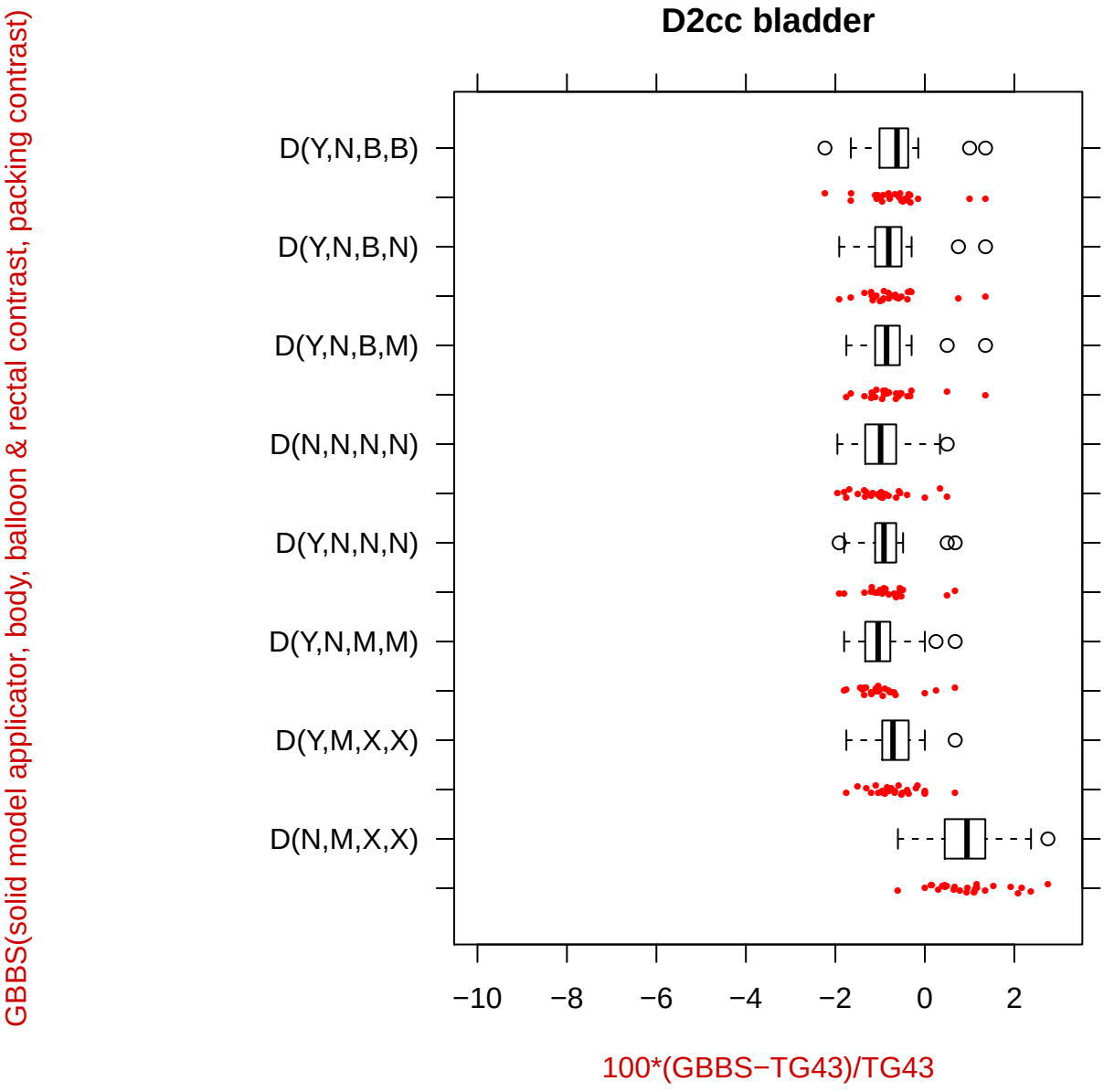

ICRU bladder
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

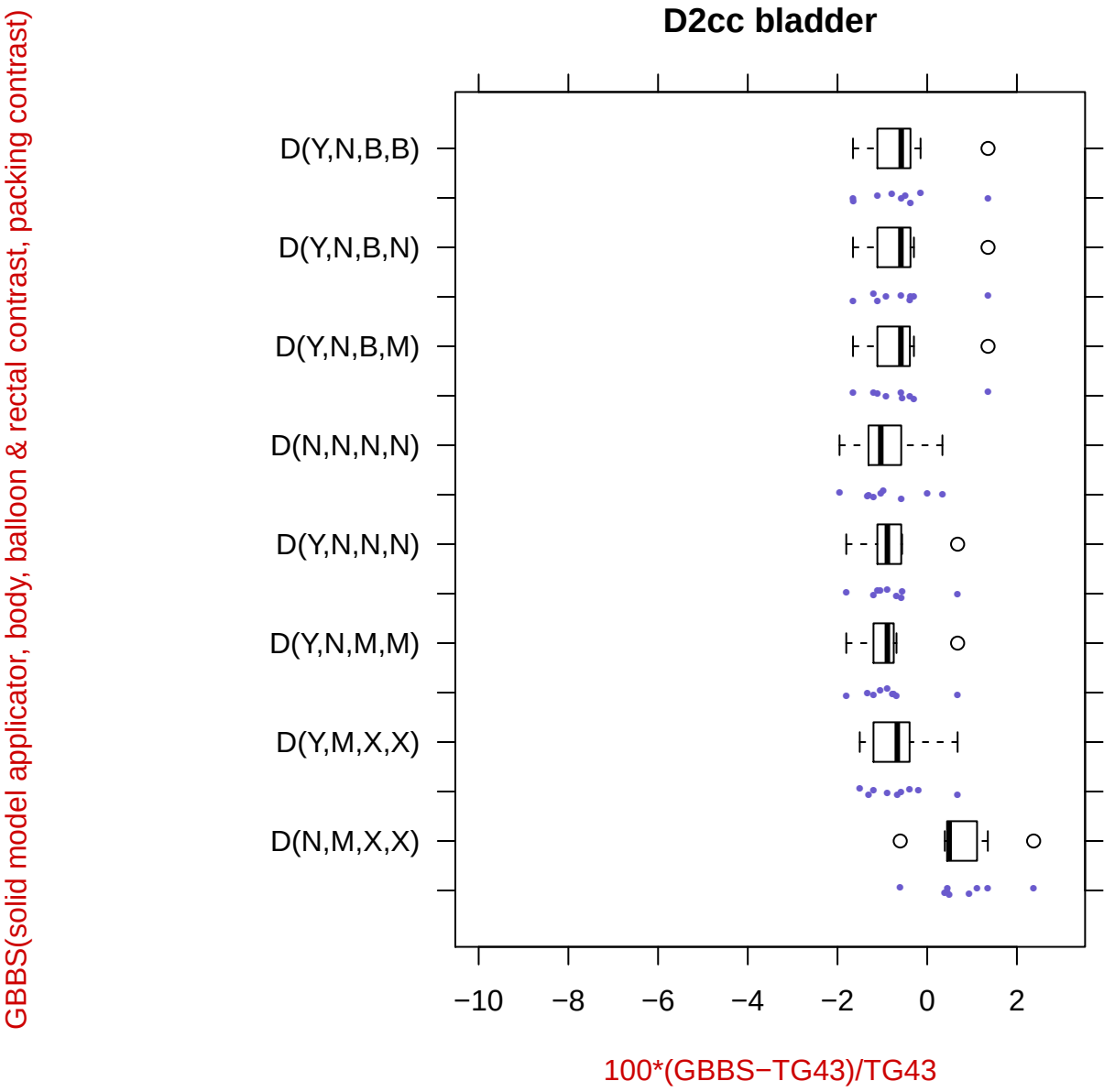

ICRU rectum
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43

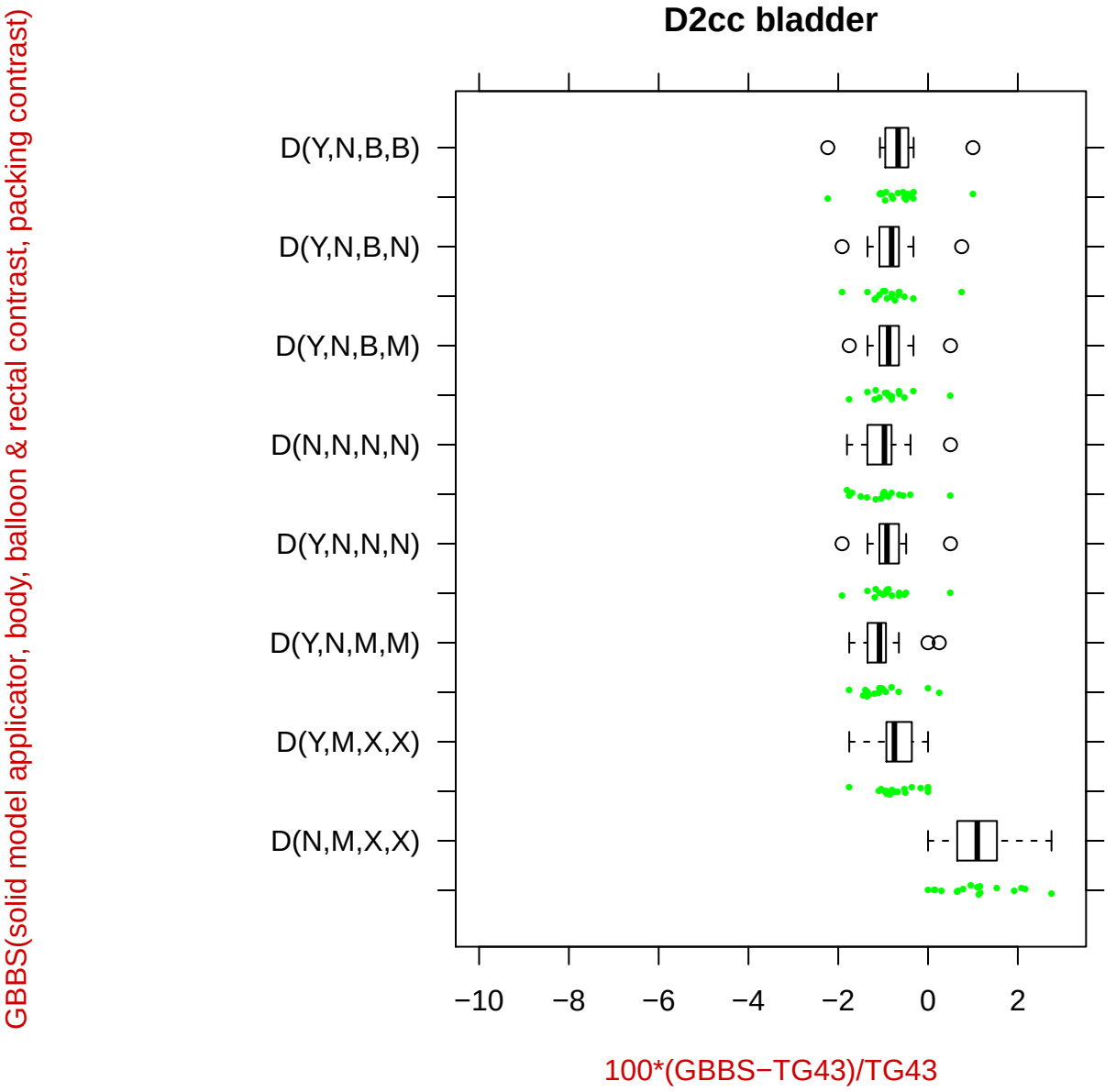

ICRU rectum
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


ICRU rectum
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


ICRU rectum
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc bladder
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc bladder
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc bladder
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
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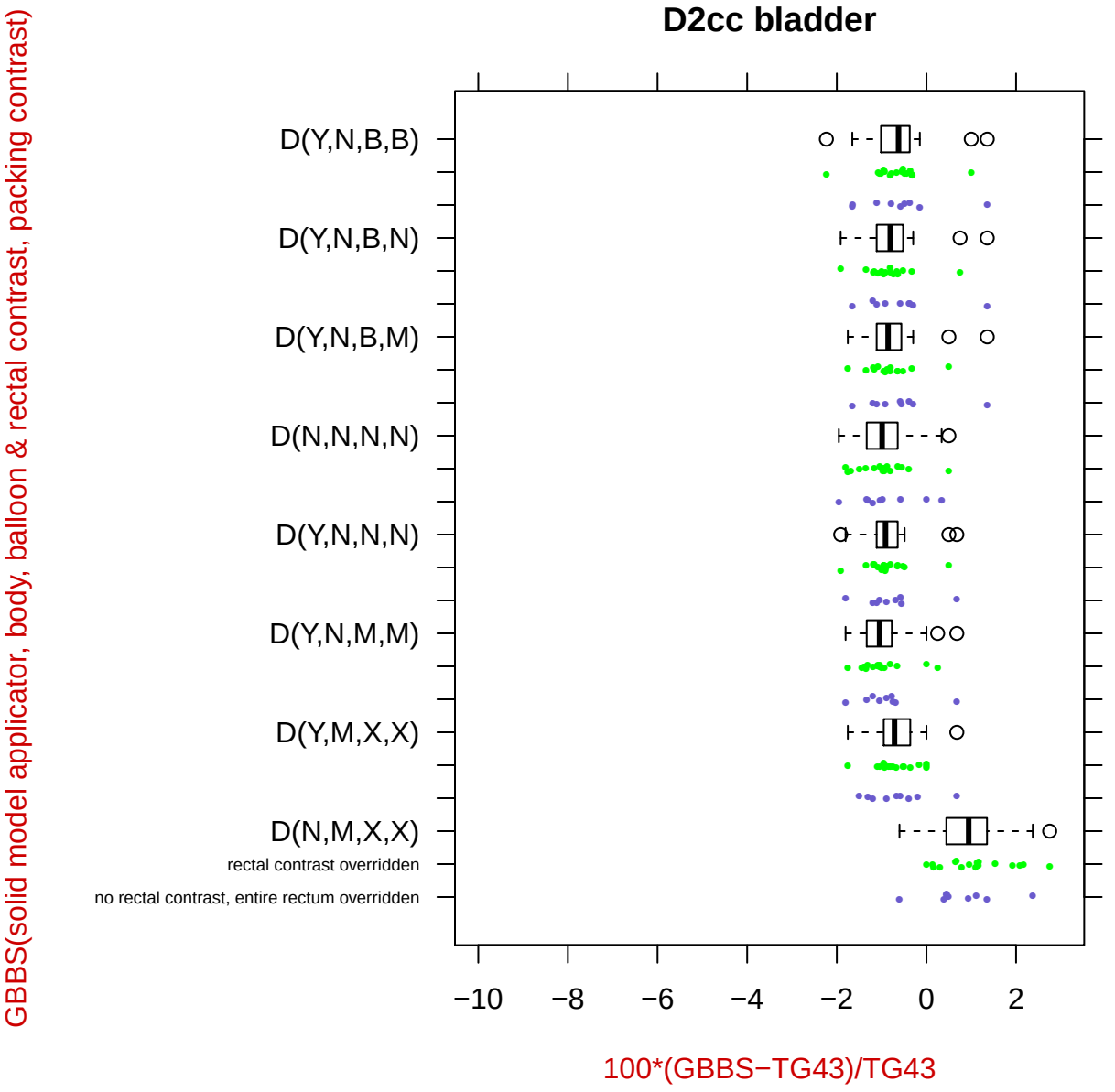
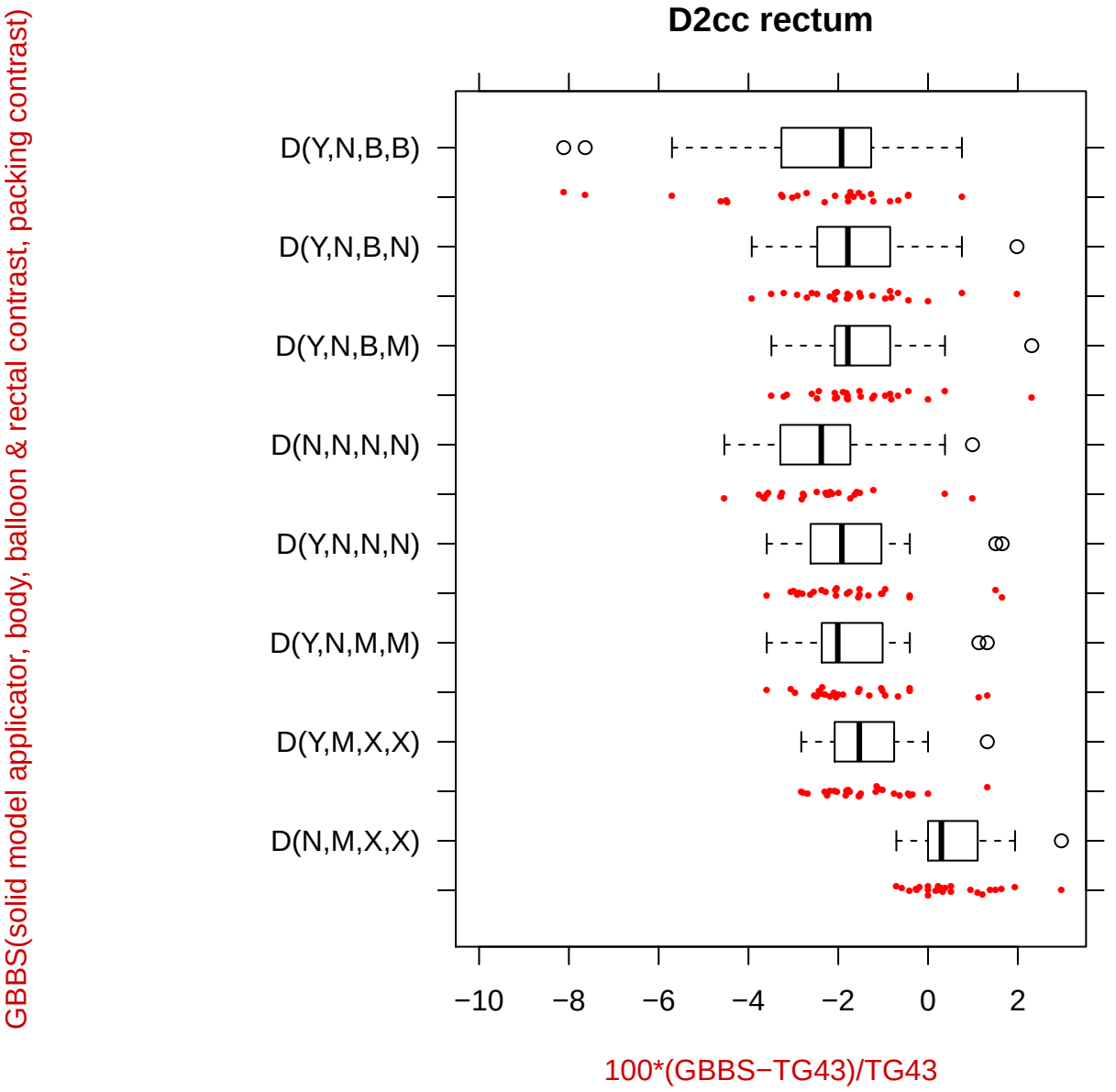
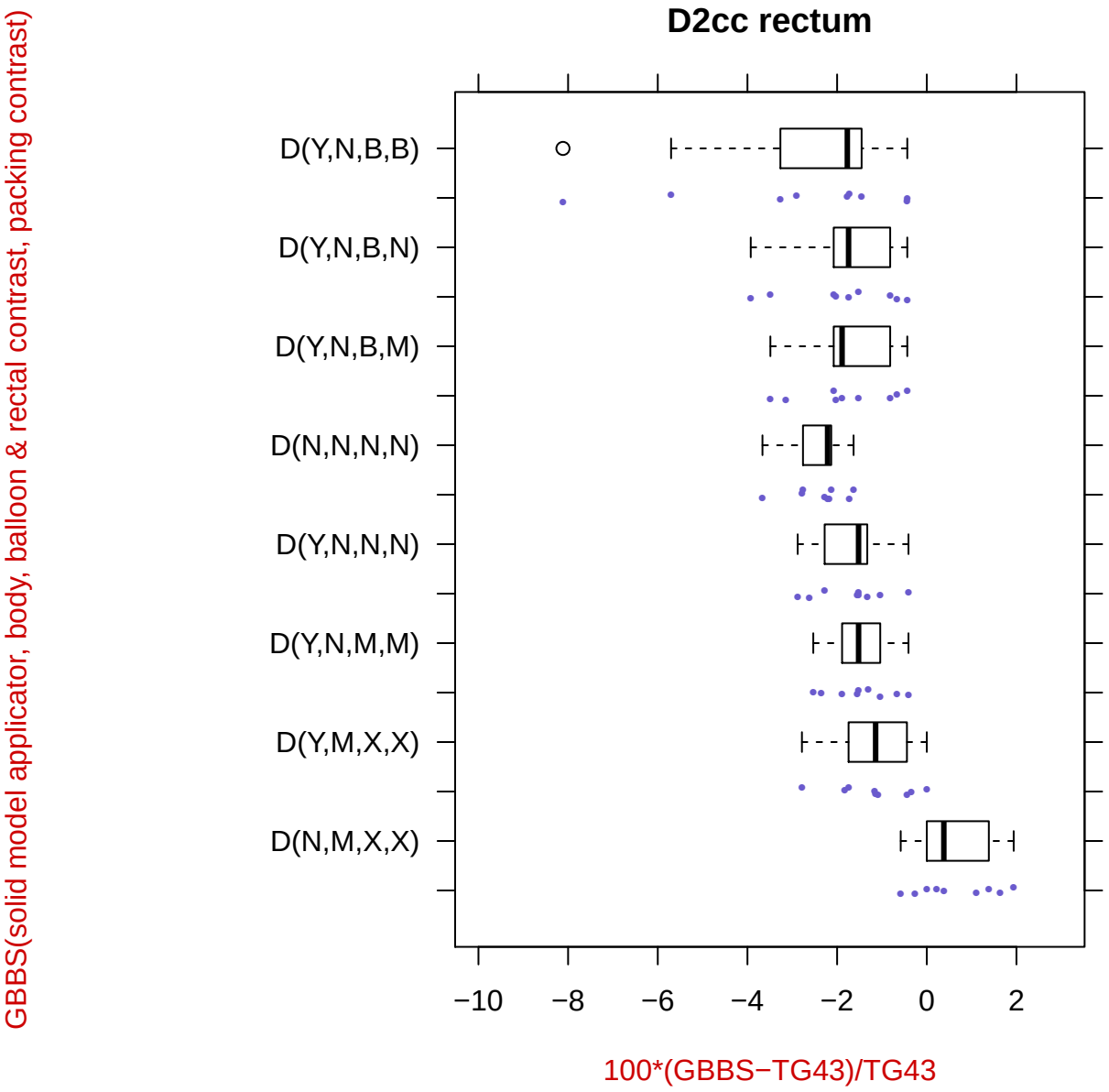
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc bladder
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc rectum
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc rectum
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
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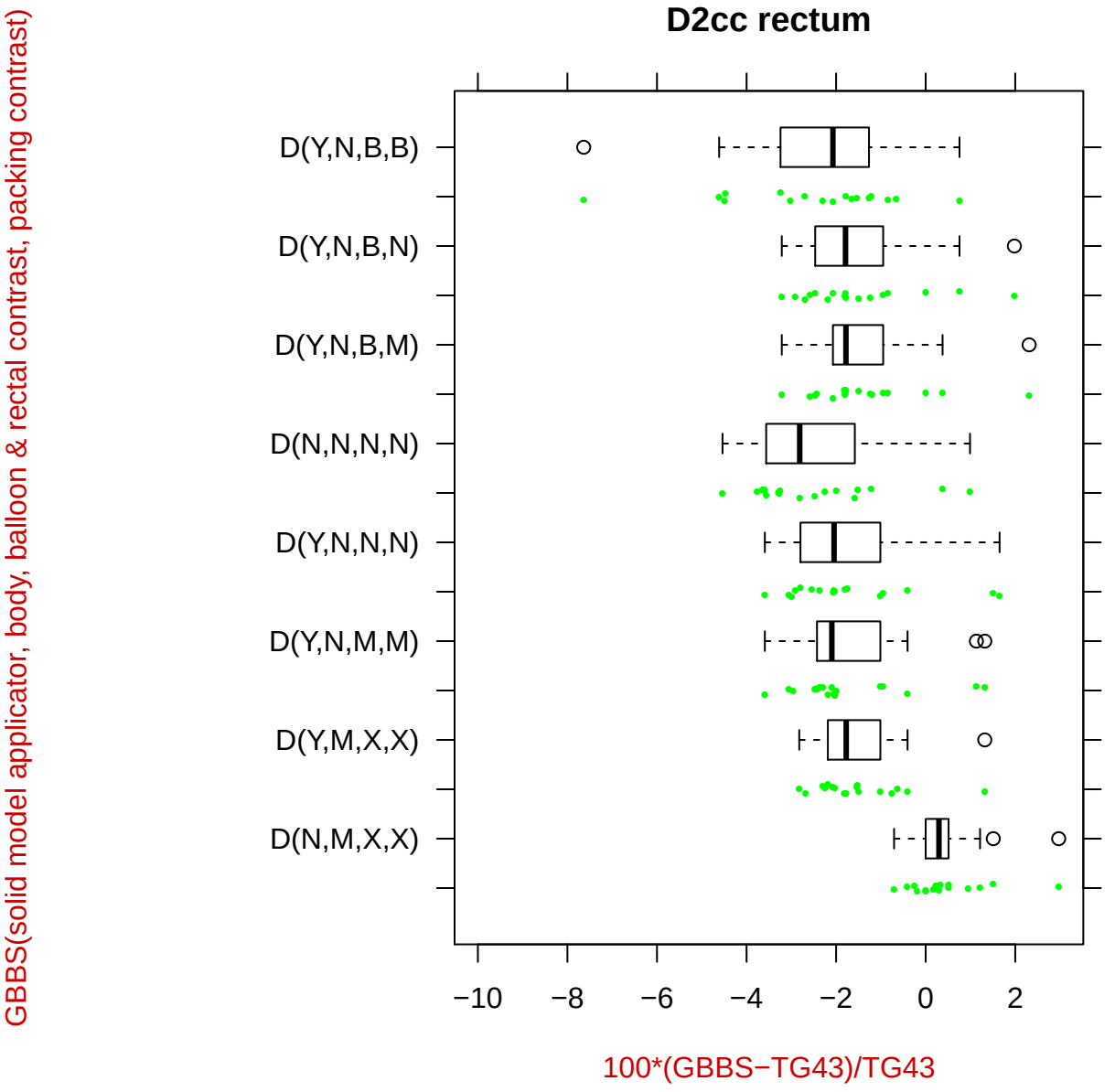
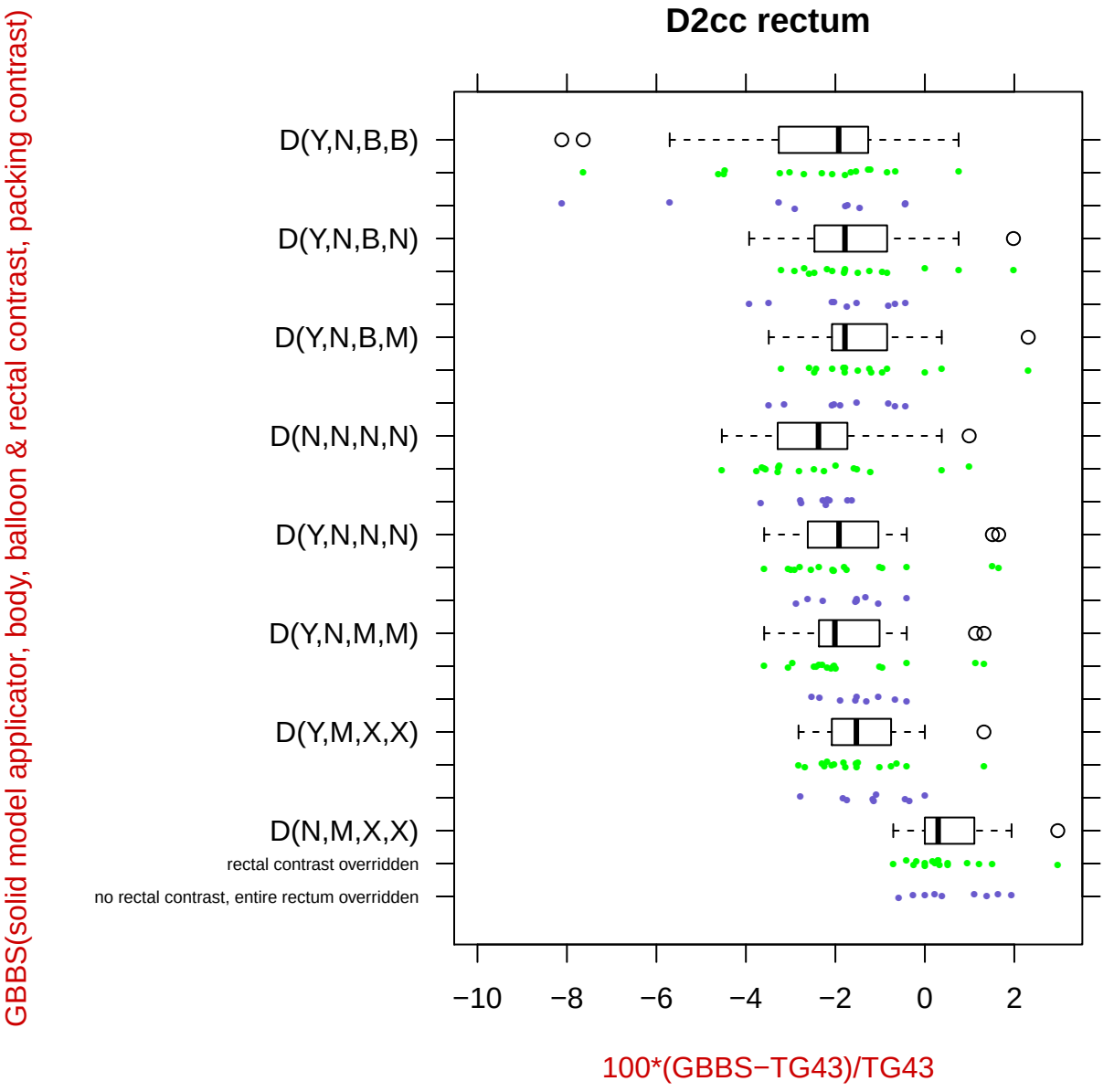
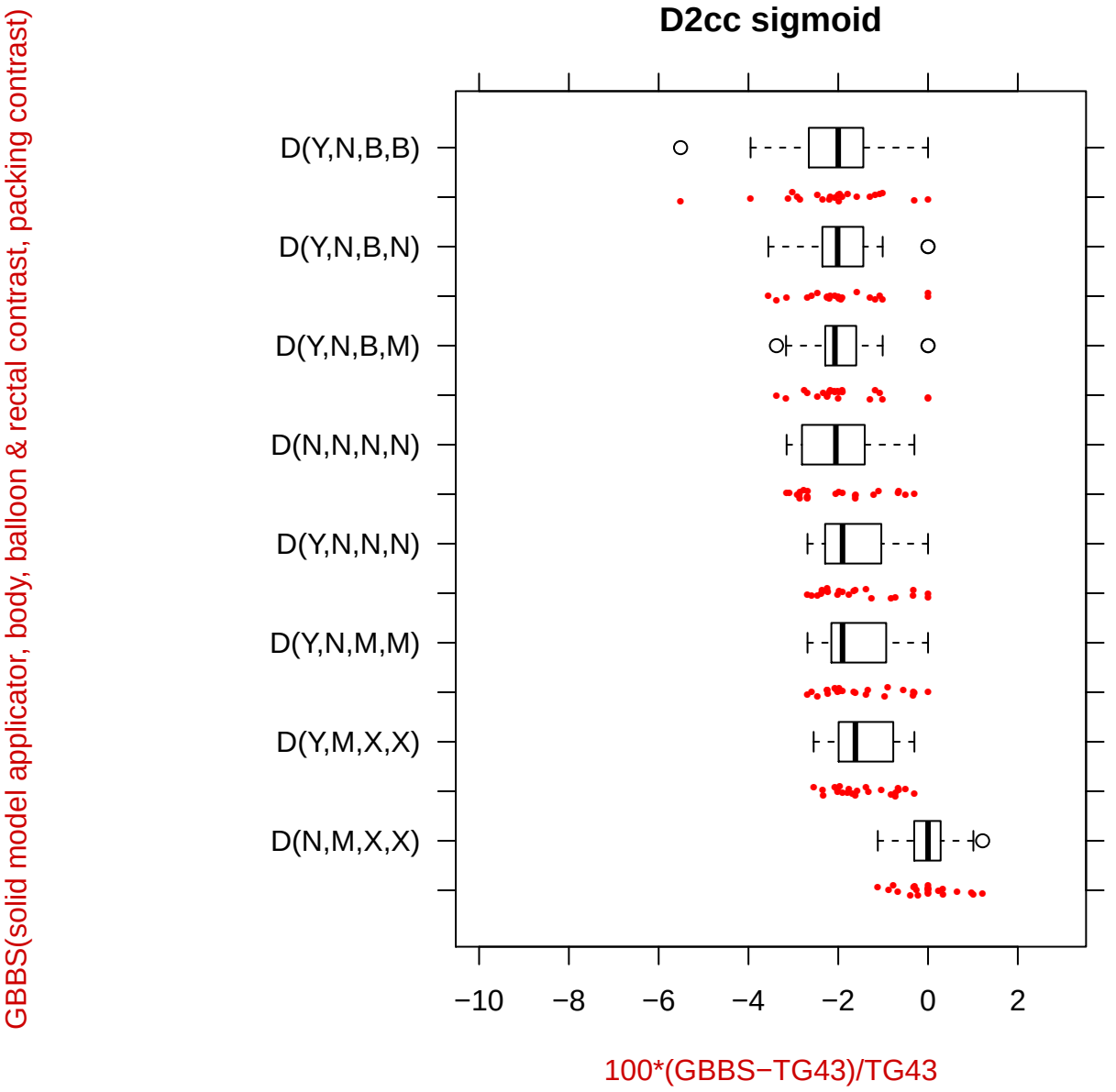
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc rectum
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc rectum
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc sigmoid
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
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D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
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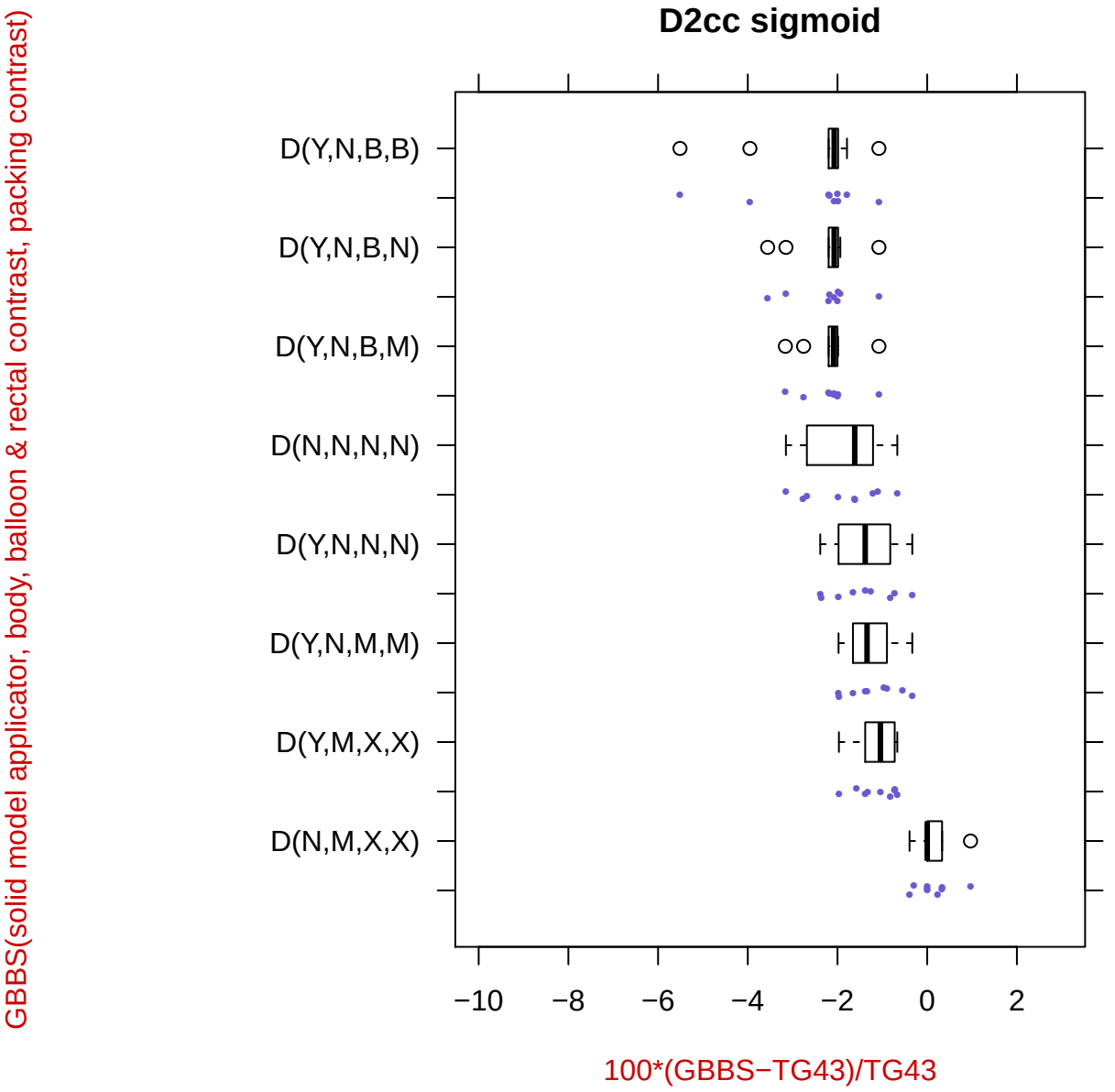
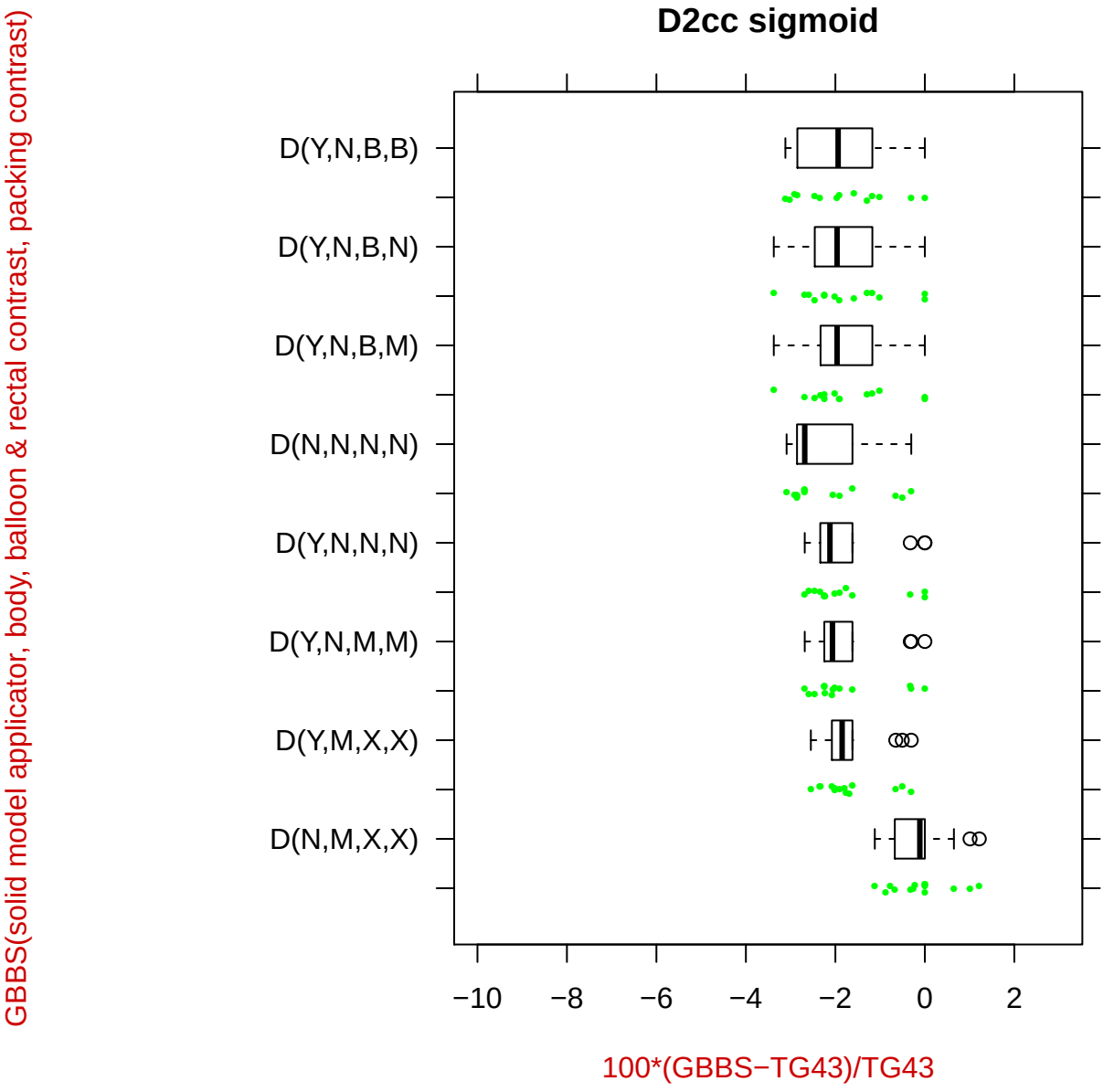
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc sigmoid
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc sigmoid
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
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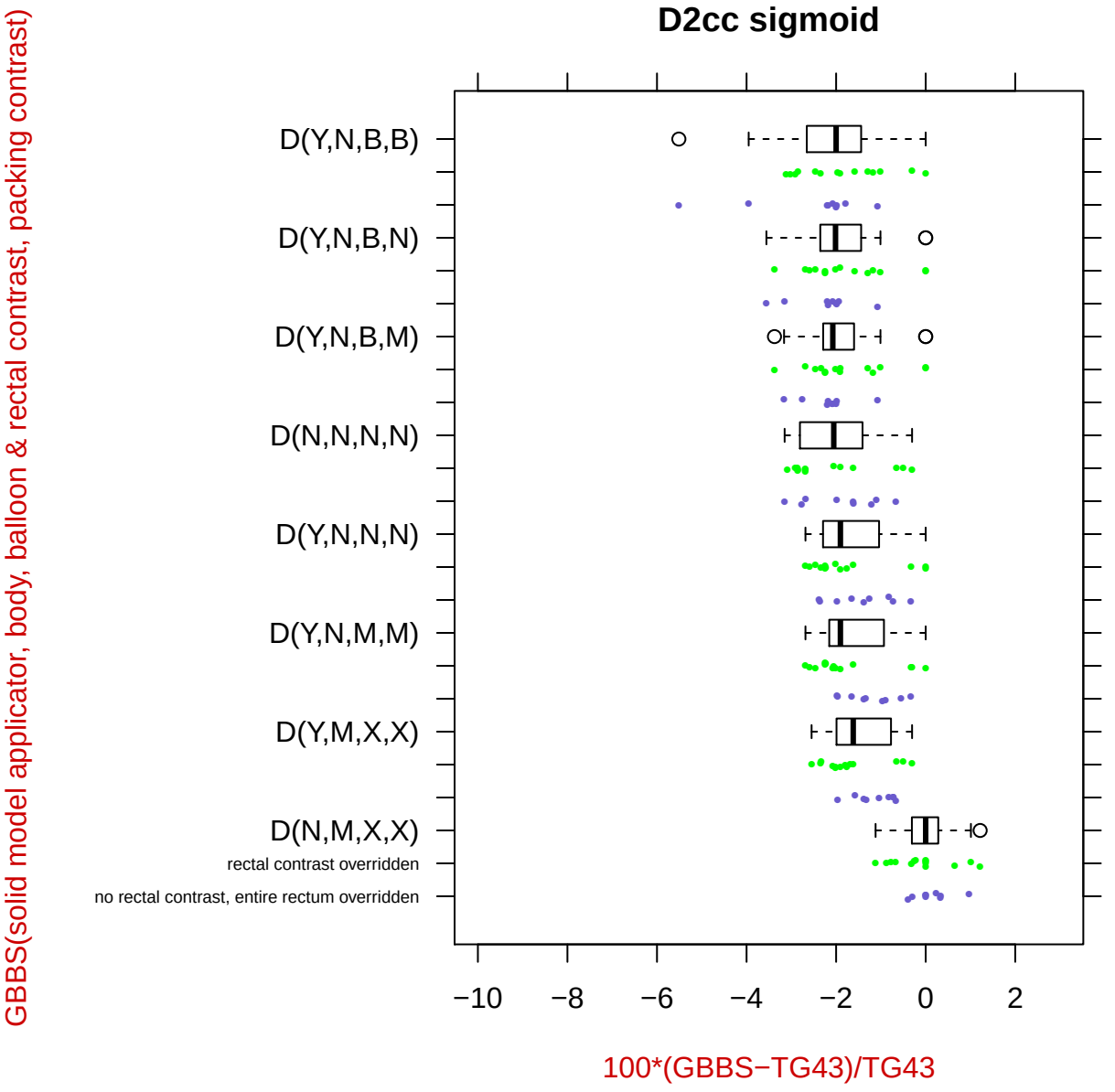
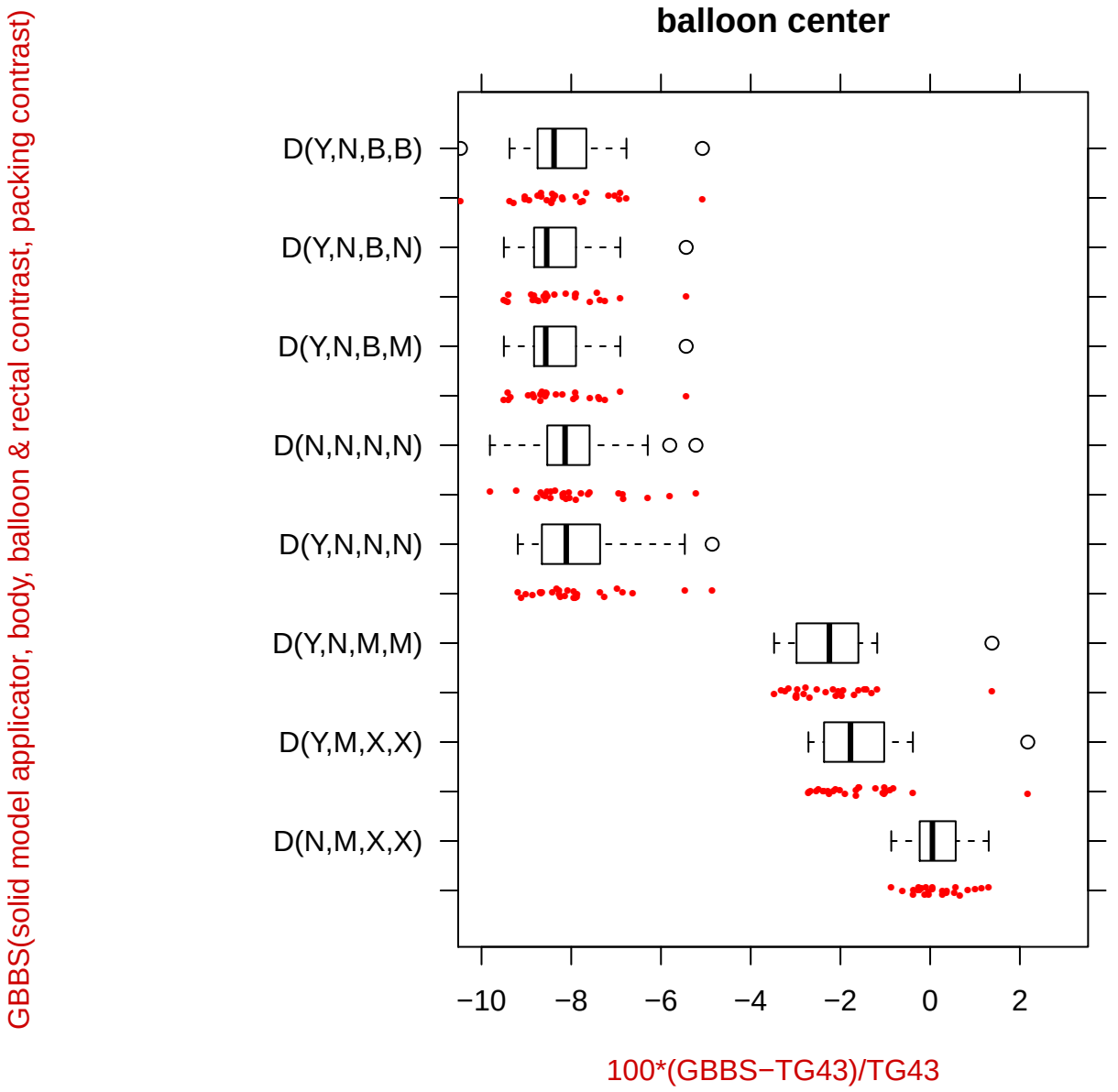
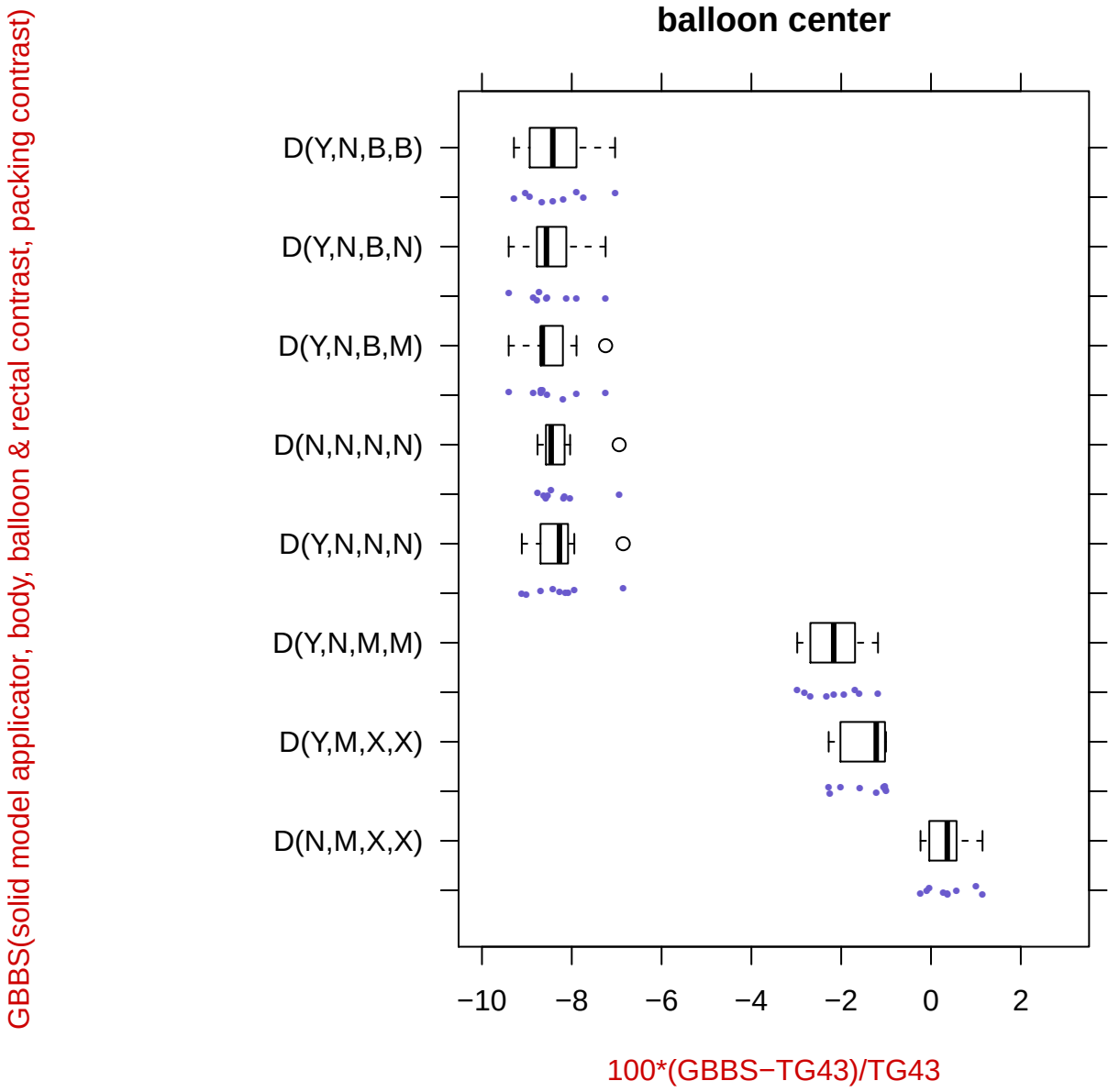
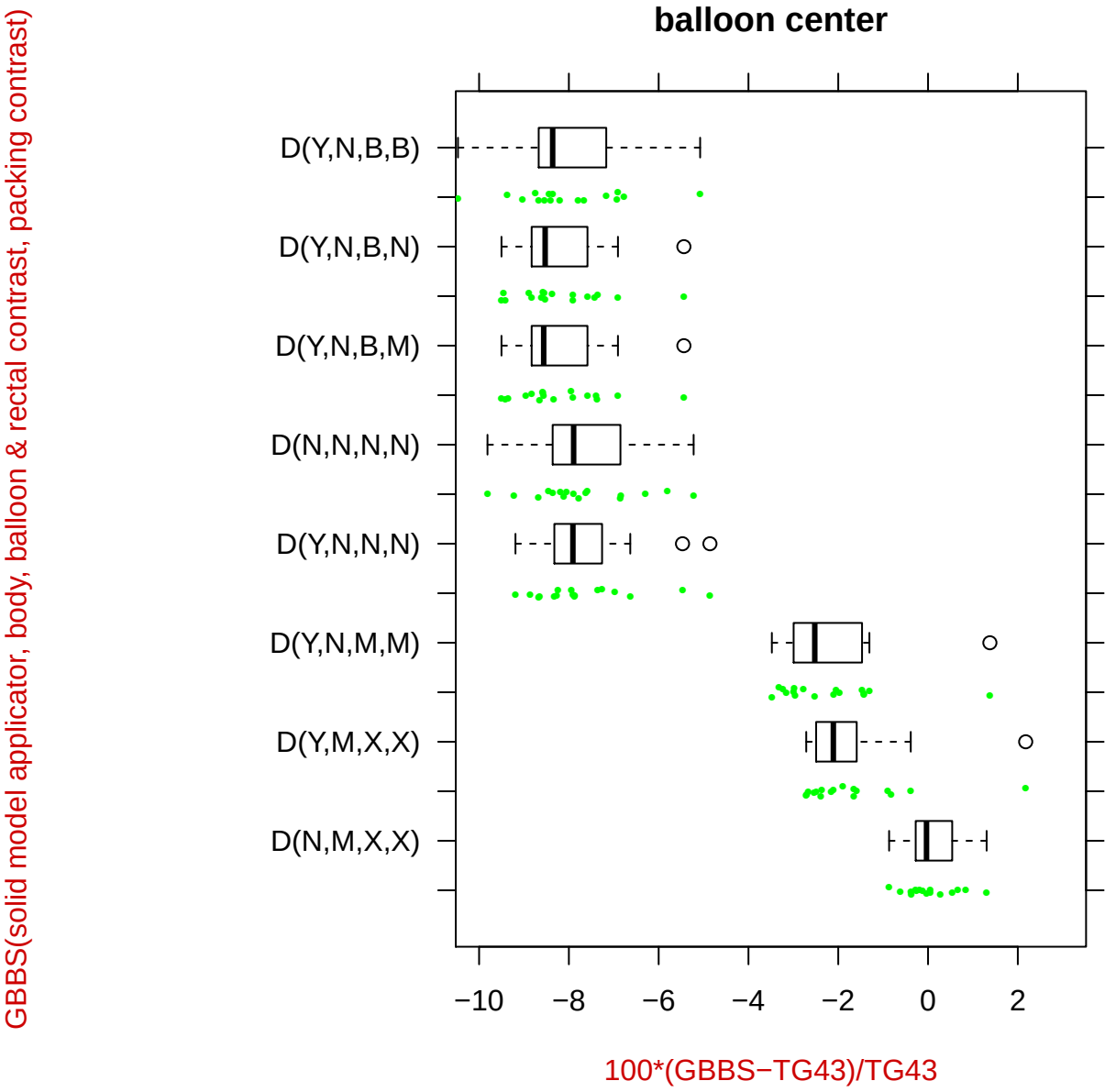
−4
−2
0
2
100*(GBBS−TG43)/TG43


D2cc sigmoid
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


balloon center
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


balloon center
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
100*(GBBS−TG43)/TG43


balloon center
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
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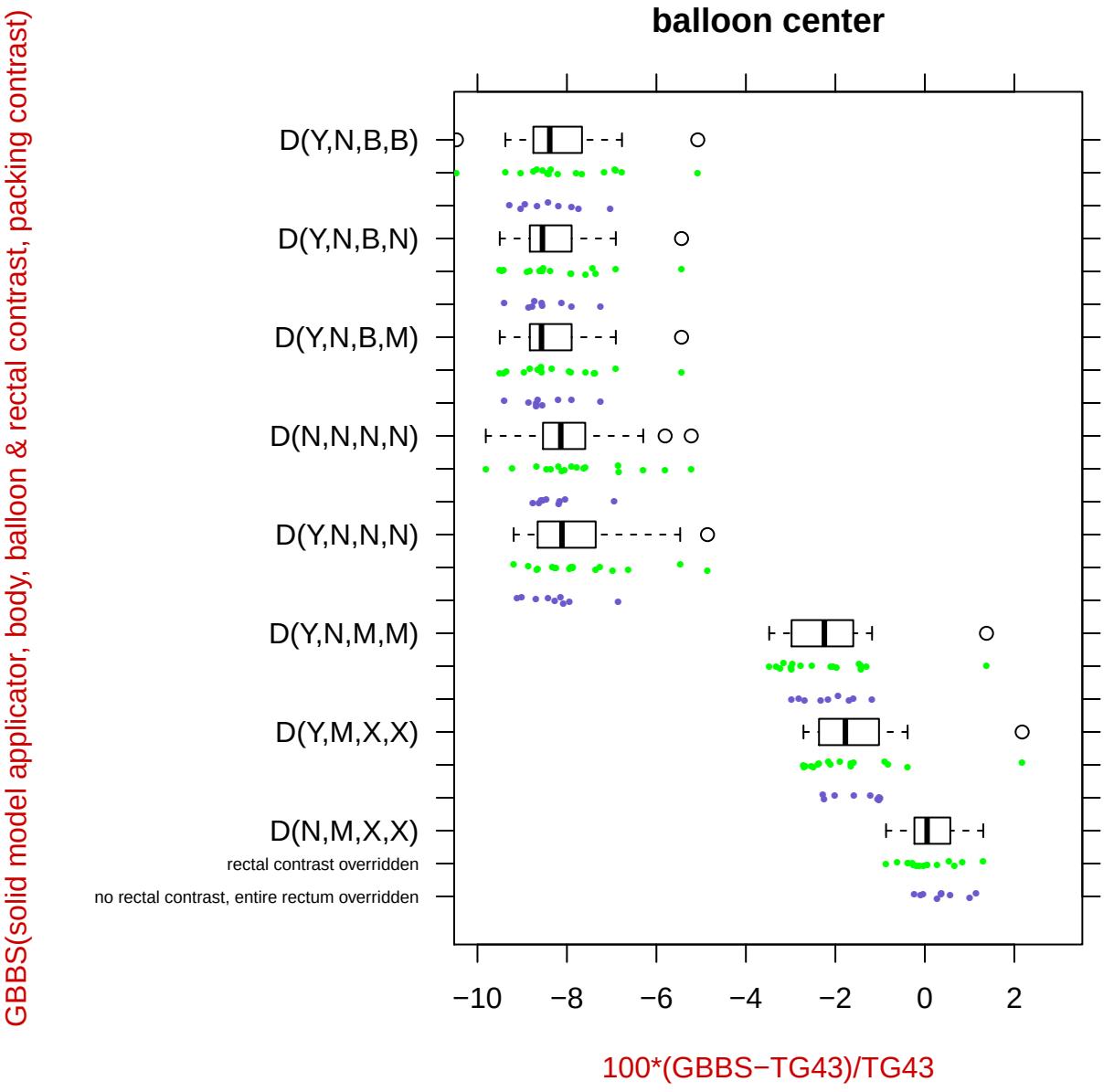
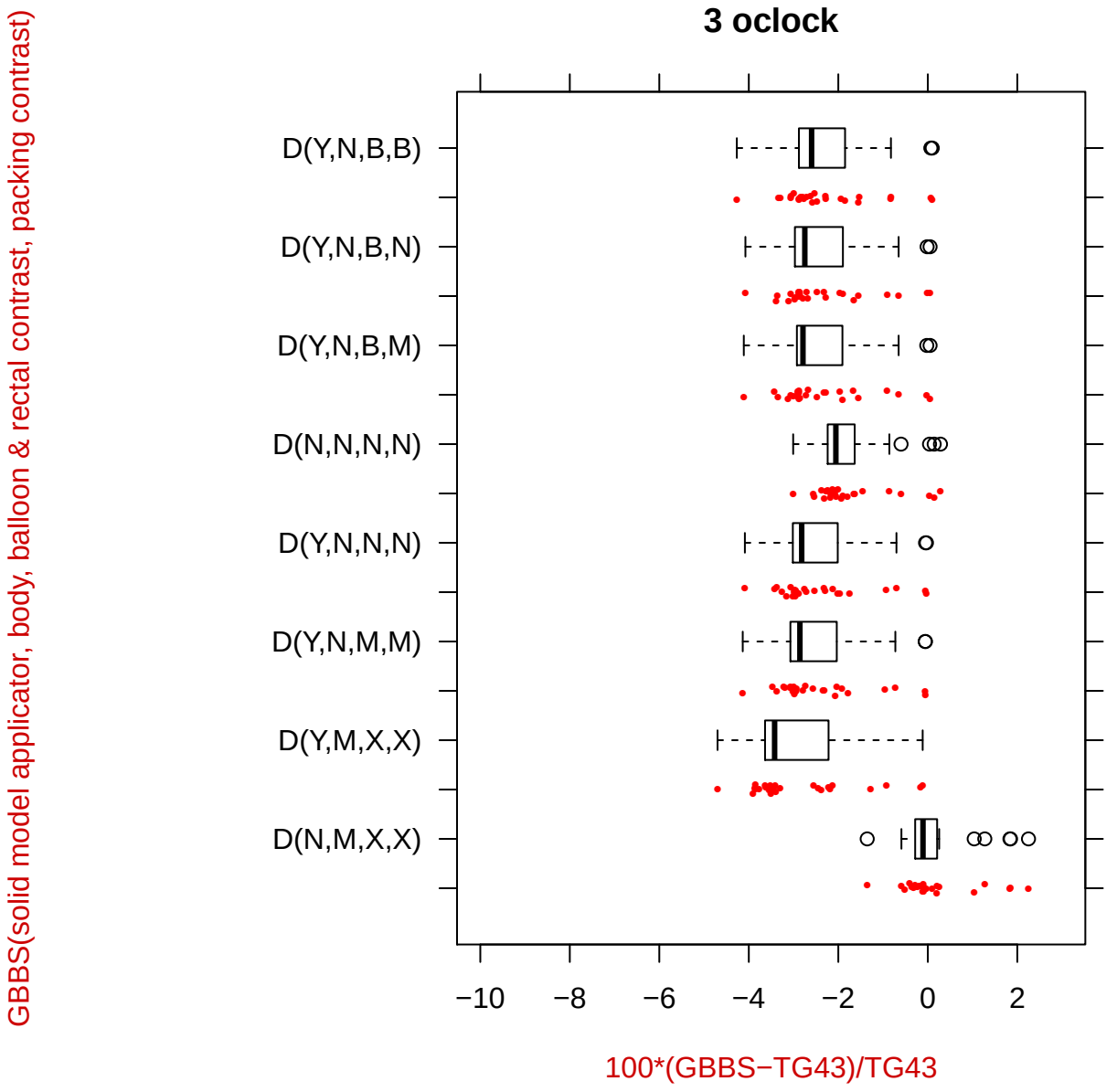
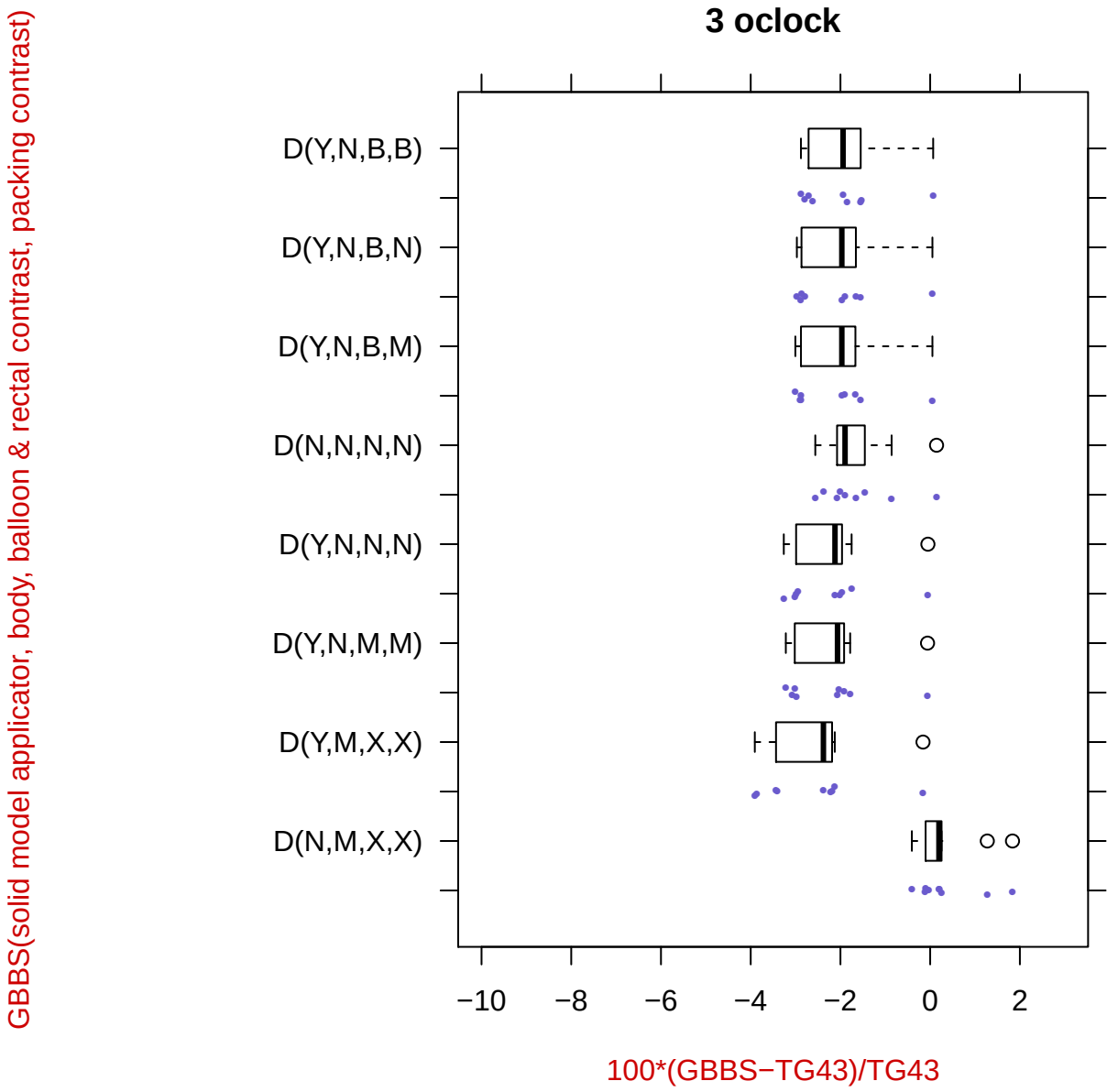
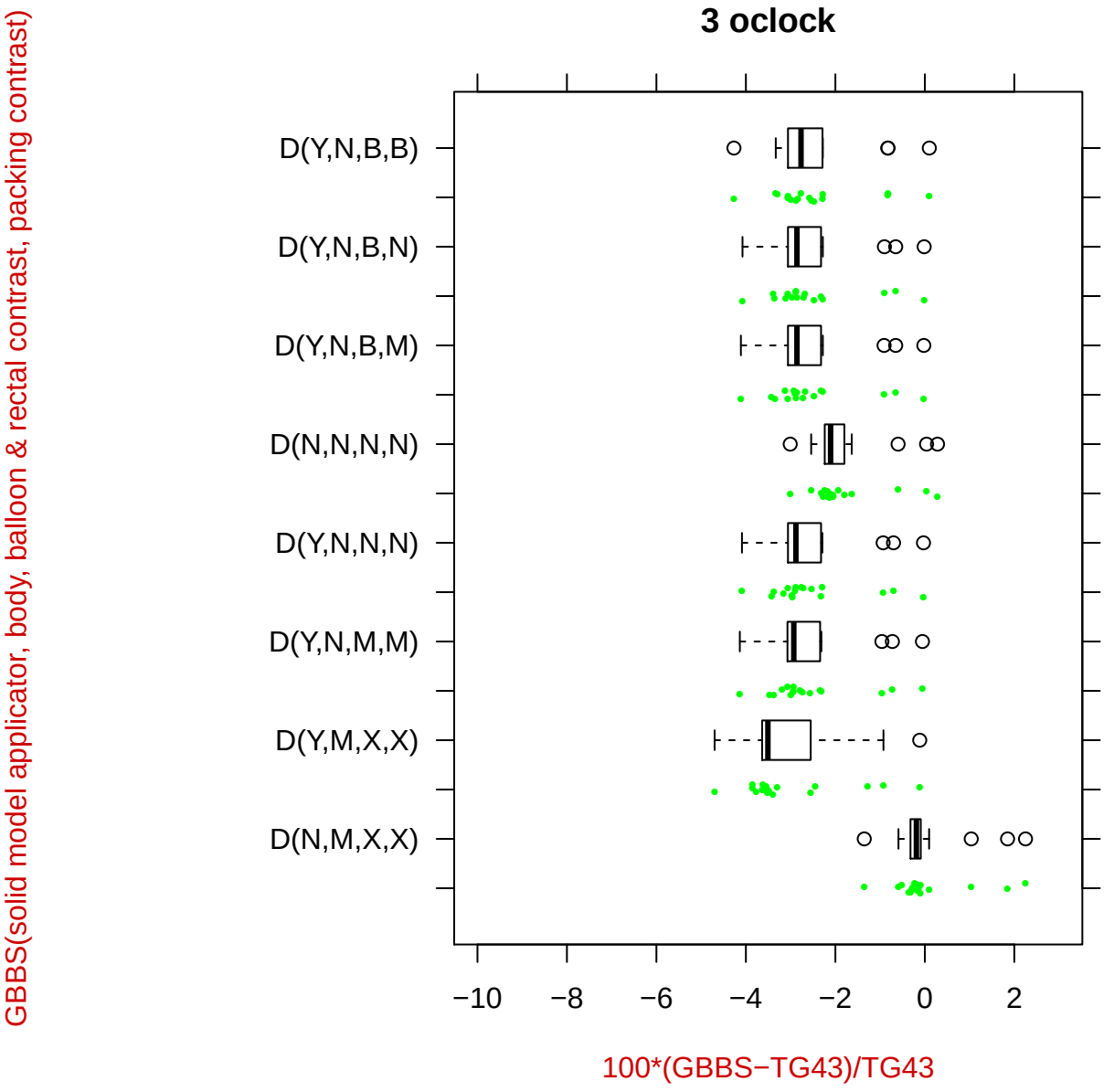
−4
−2
0
2
100*(GBBS−TG43)/TG43


balloon center
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


3 oclock
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


3 oclock
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


3 oclock
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
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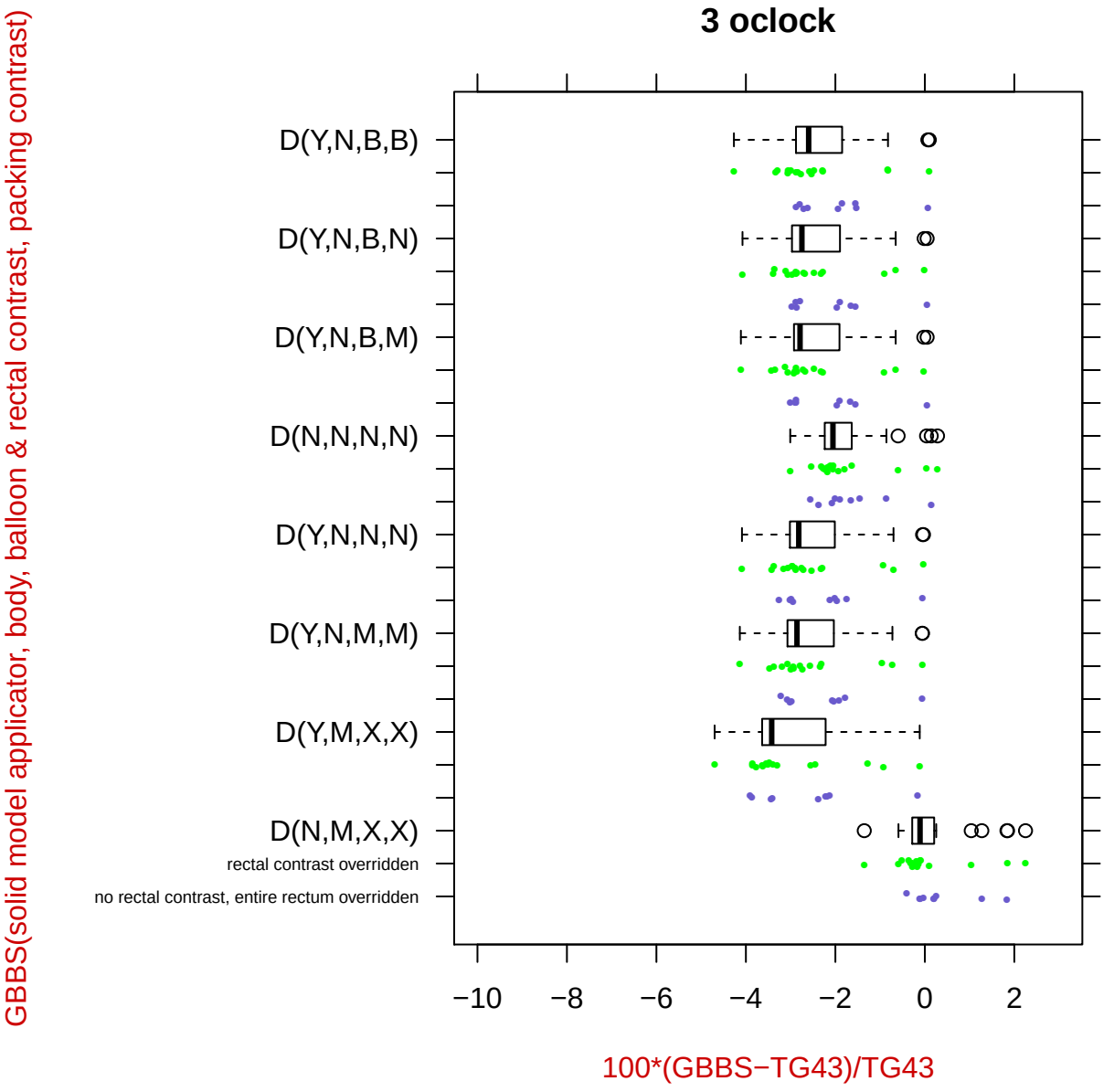
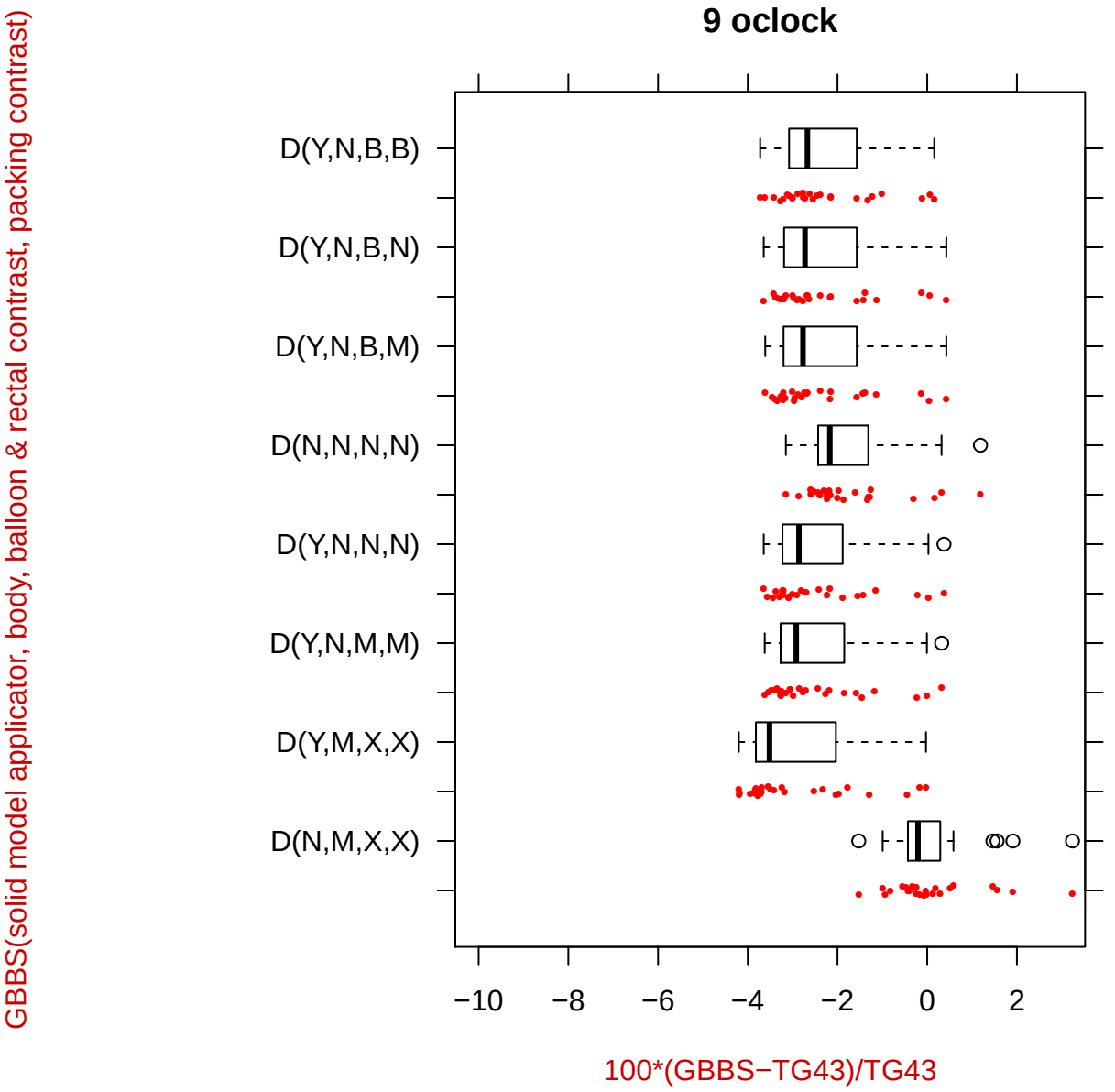
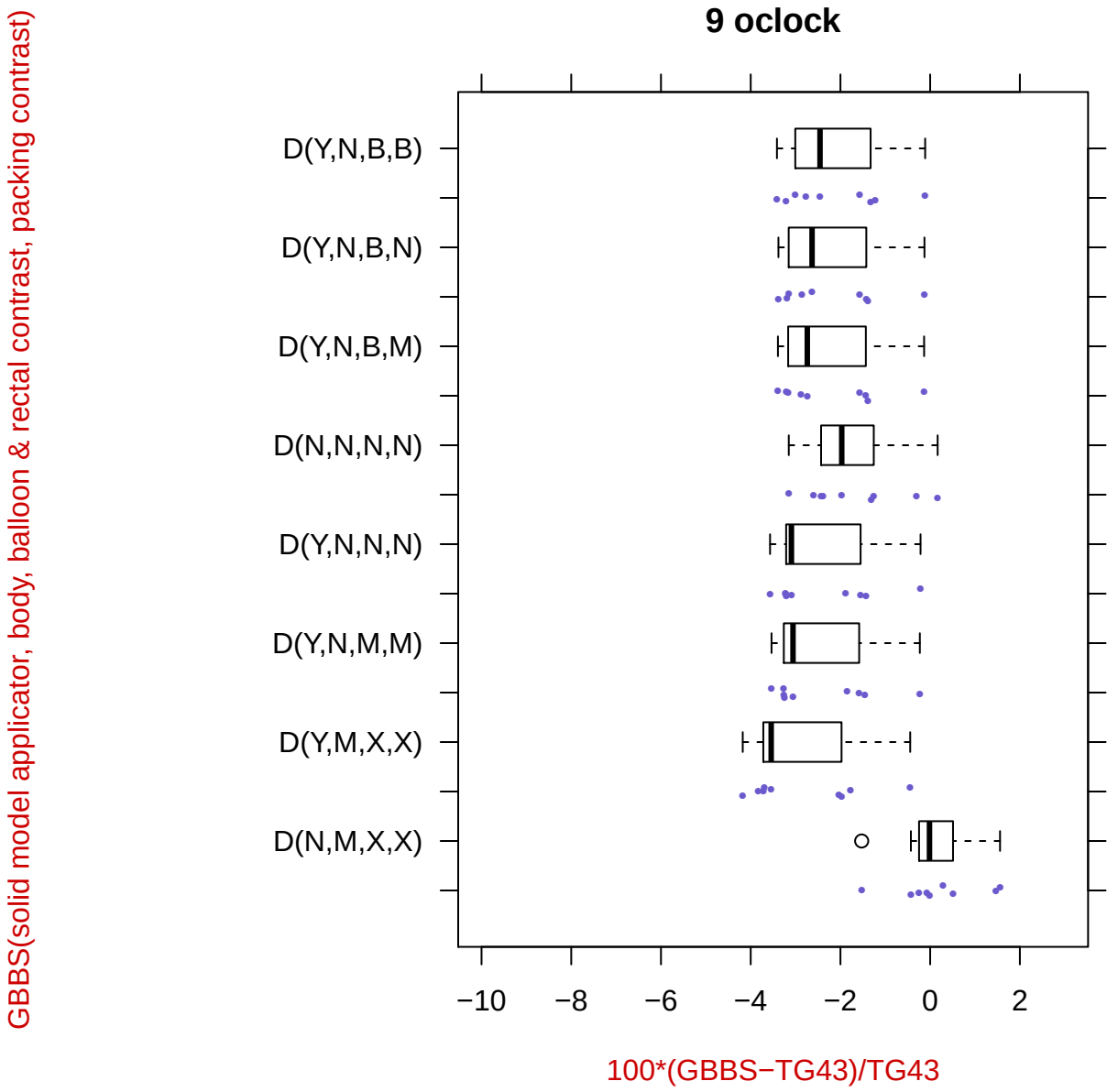
−4
−2
0
2
100*(GBBS−TG43)/TG43


3 oclock
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


9 oclock
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43


9 oclock
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
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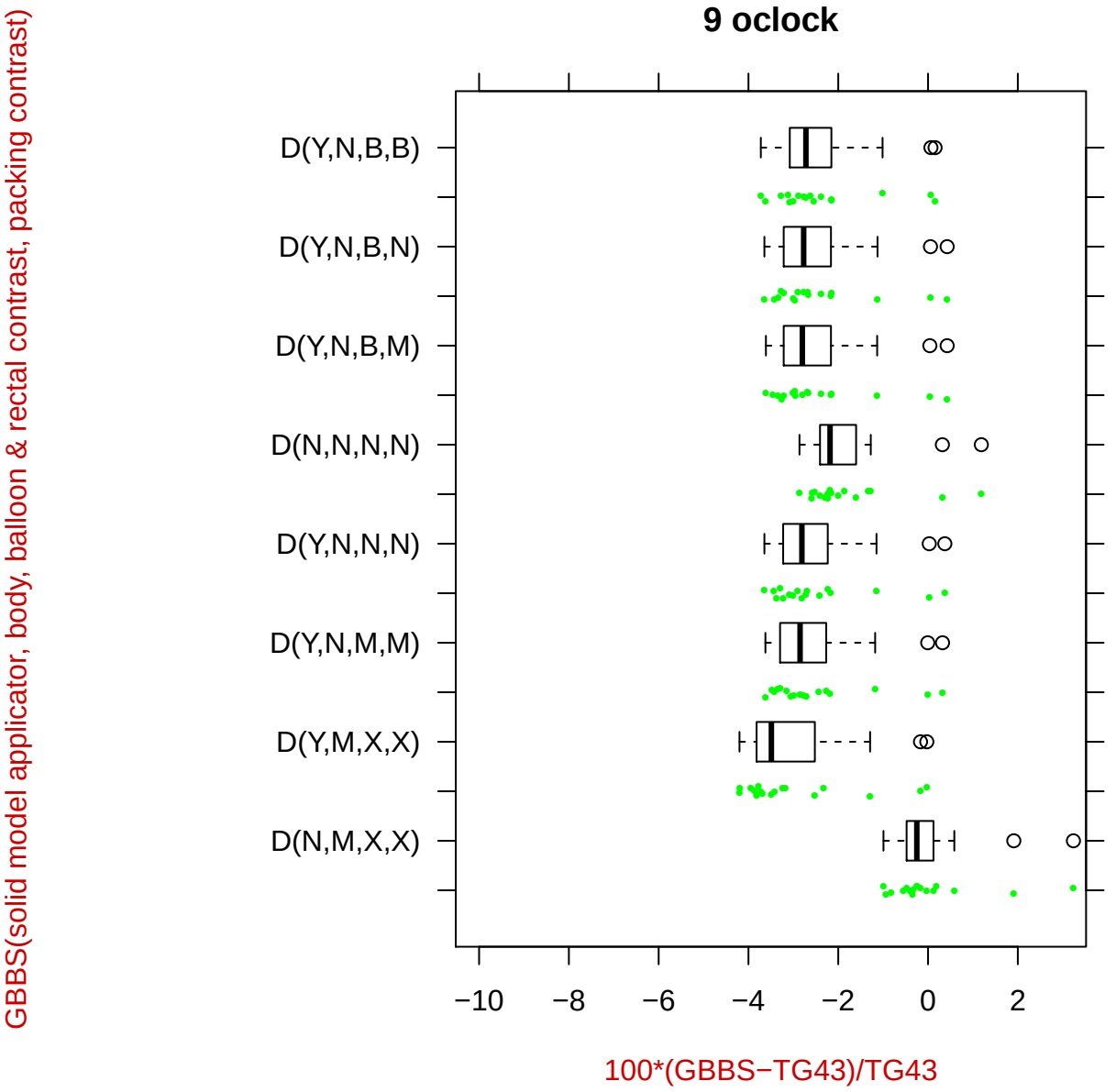
−2
0
2
100*(GBBS−TG43)/TG43


9 oclock
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
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0
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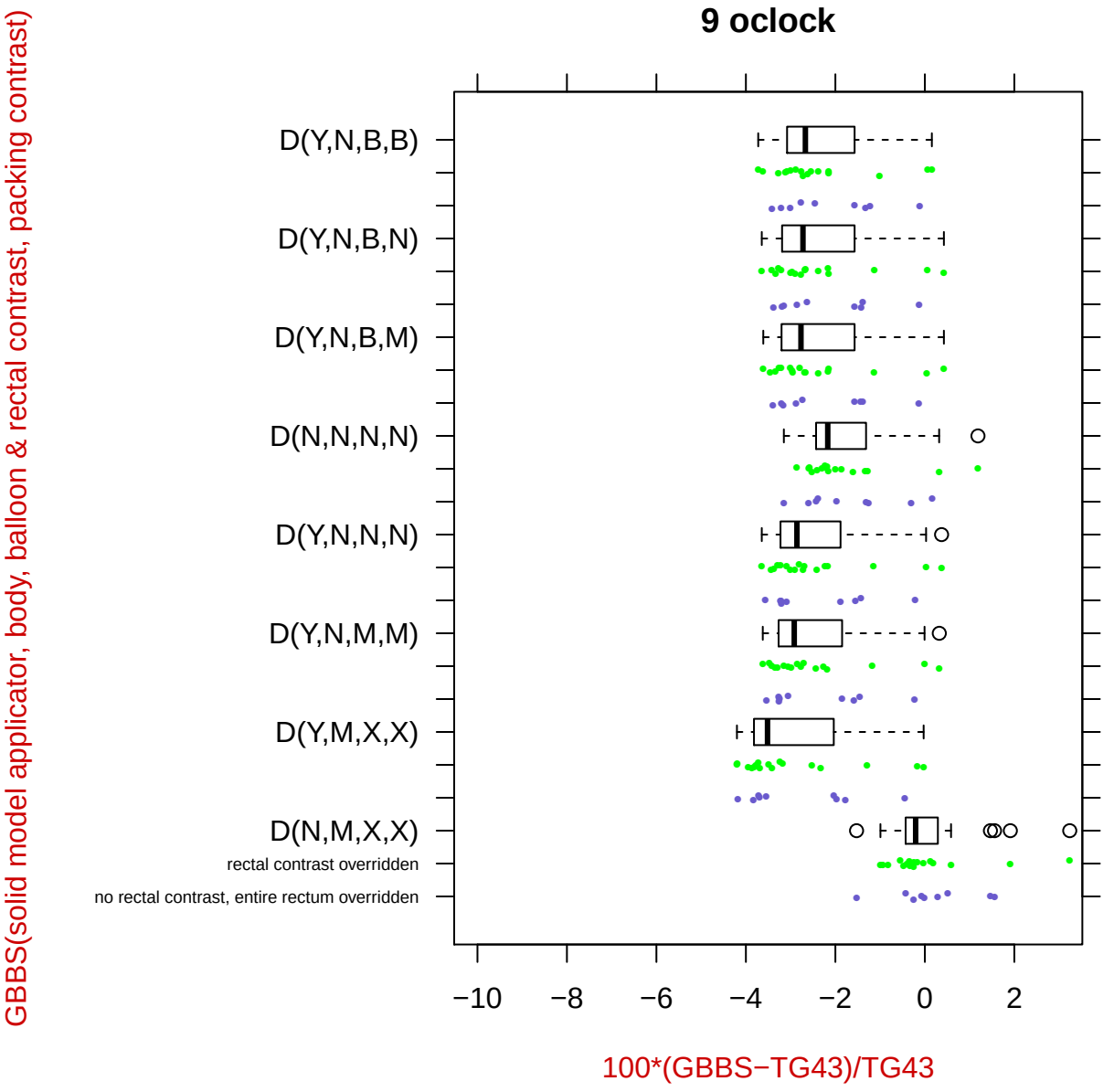
100*(GBBS−TG43)/TG43


9 oclock
GBBS(solid model applicator, body, balloon & rectal contrast, packing contrast)
D(Y,N,B,B)
D(Y,N,B,N)
D(Y,N,B,M)
D(N,N,N,N)
D(Y,N,N,N)
D(Y,N,M,M)
D(Y,M,X,X)
D(N,M,X,X)
rectal contrast overridden
no rectal contrast, entire rectum overridden
−10
−8
−6
−4
−2
0
2
100*(GBBS−TG43)/TG43