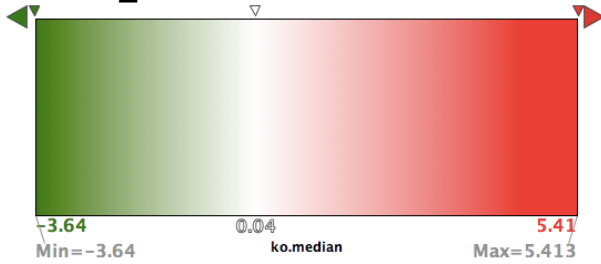


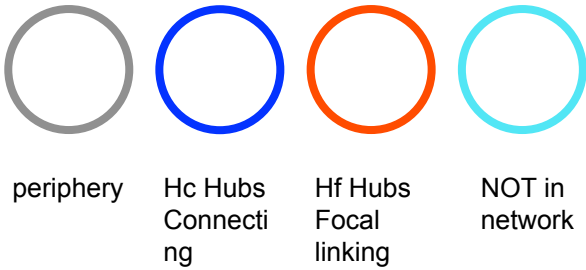
Insets of Figures

Color bar of differential gene expression:

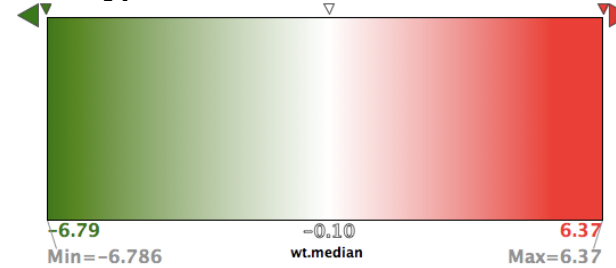
Knock_out



Topological classification:



Wild type



Co-expression shown statistically significant in different experimental groups:



Fig S1 Merged Differential Expression Networks – Wild Type

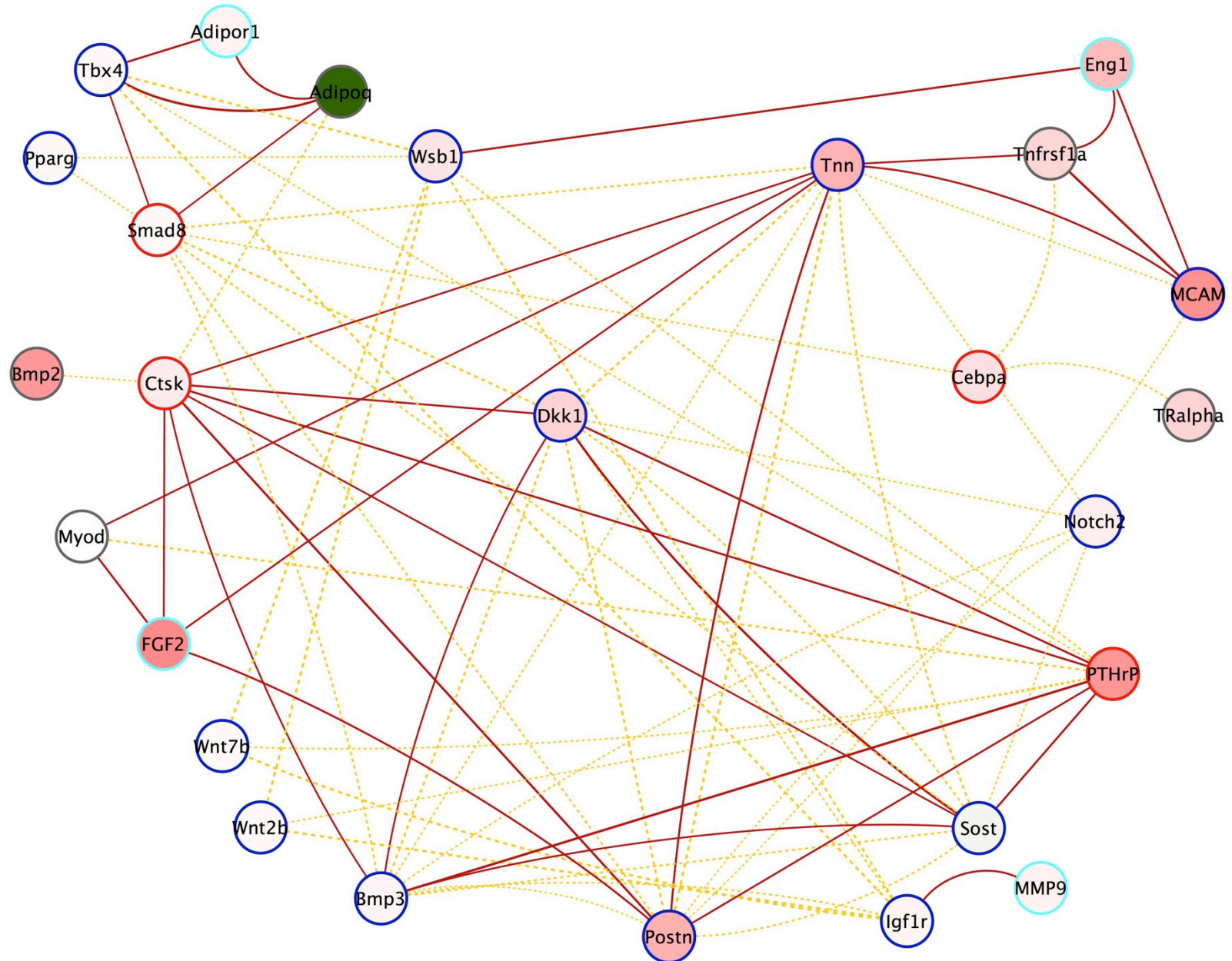


Fig S2 Differential Expression Networks – Wild-type Pre-fracture

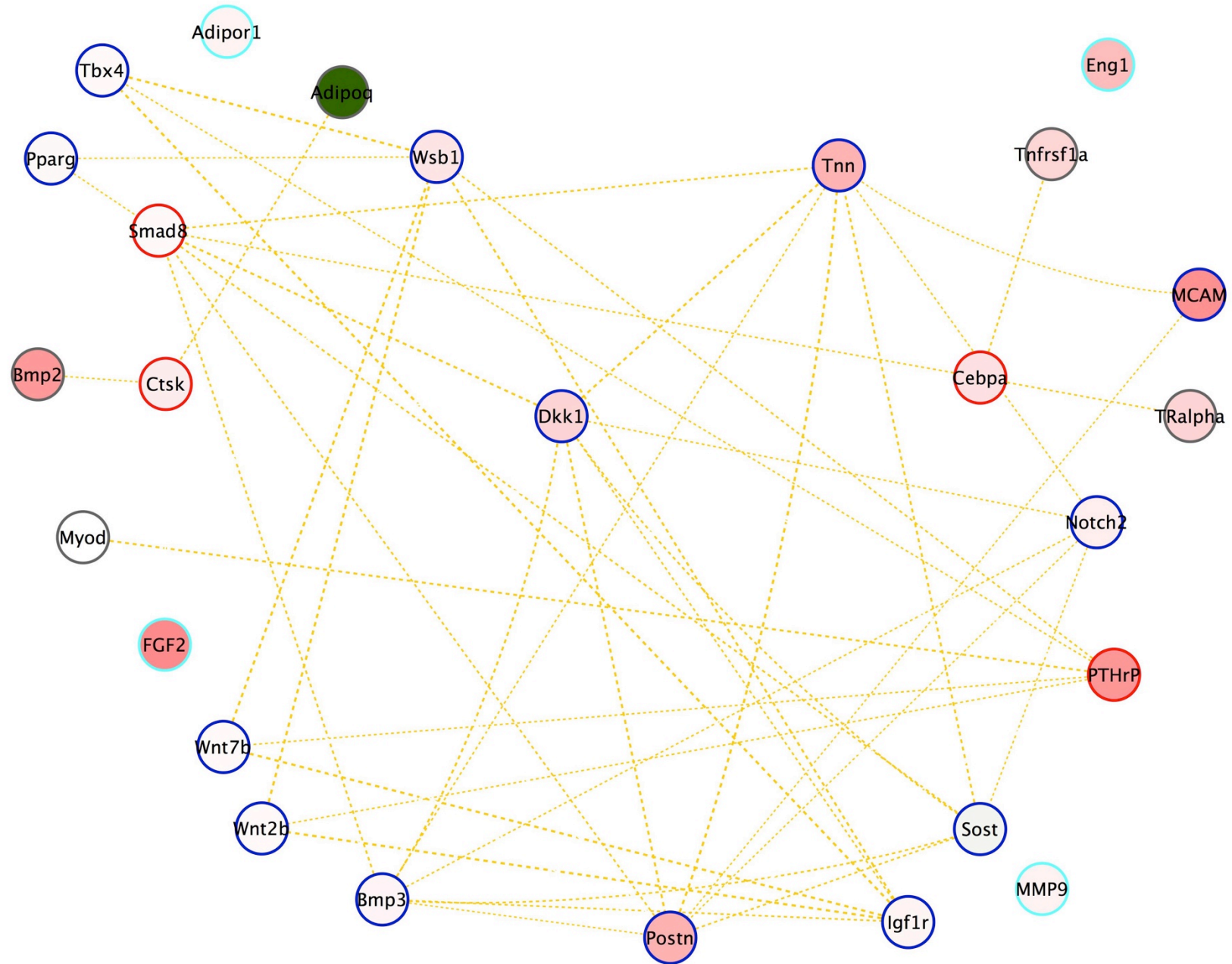


Fig S3 Differential Expression Networks – Wild-type Post-fracture

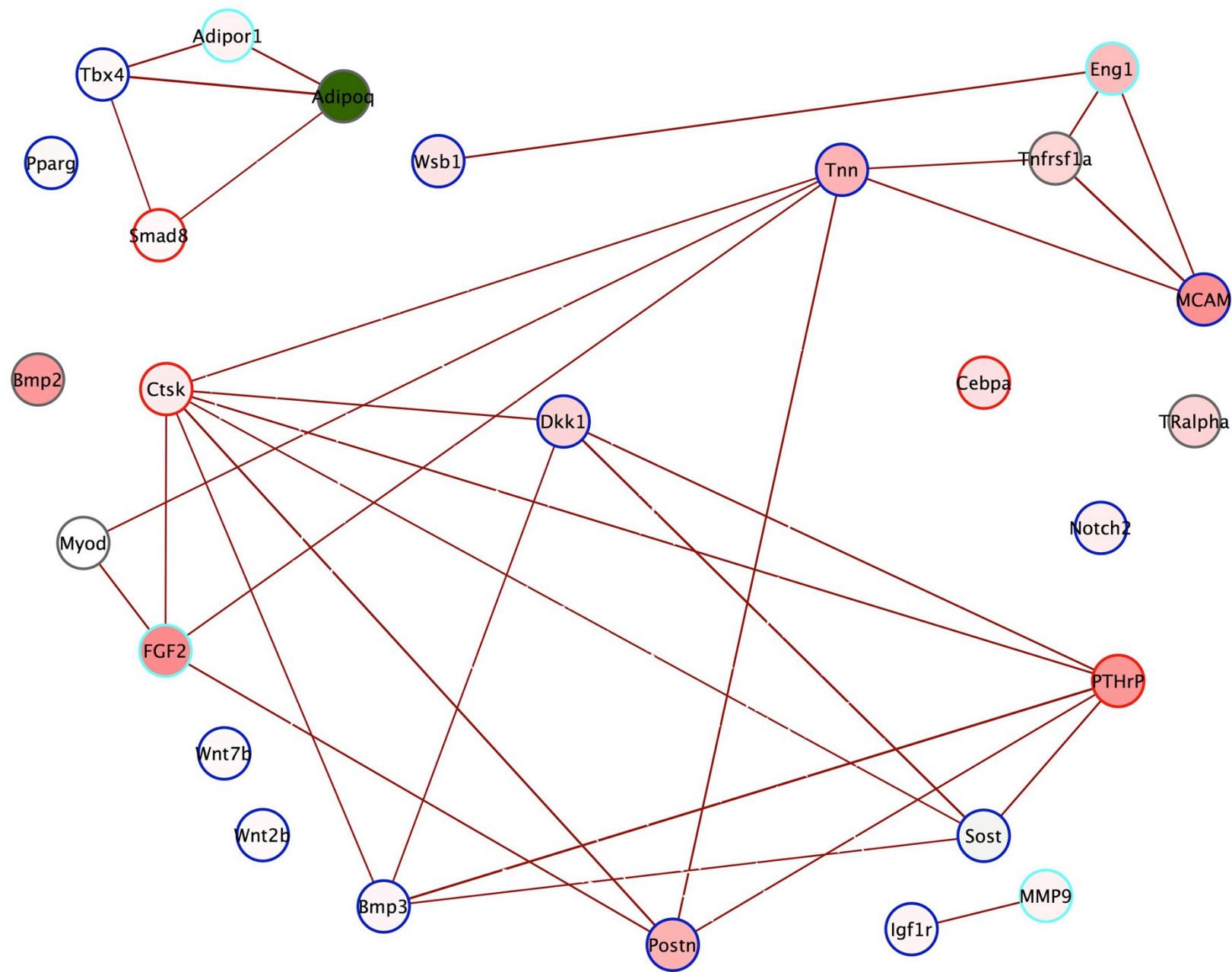


Fig S4 Merged Differential Expression Networks – Knockout

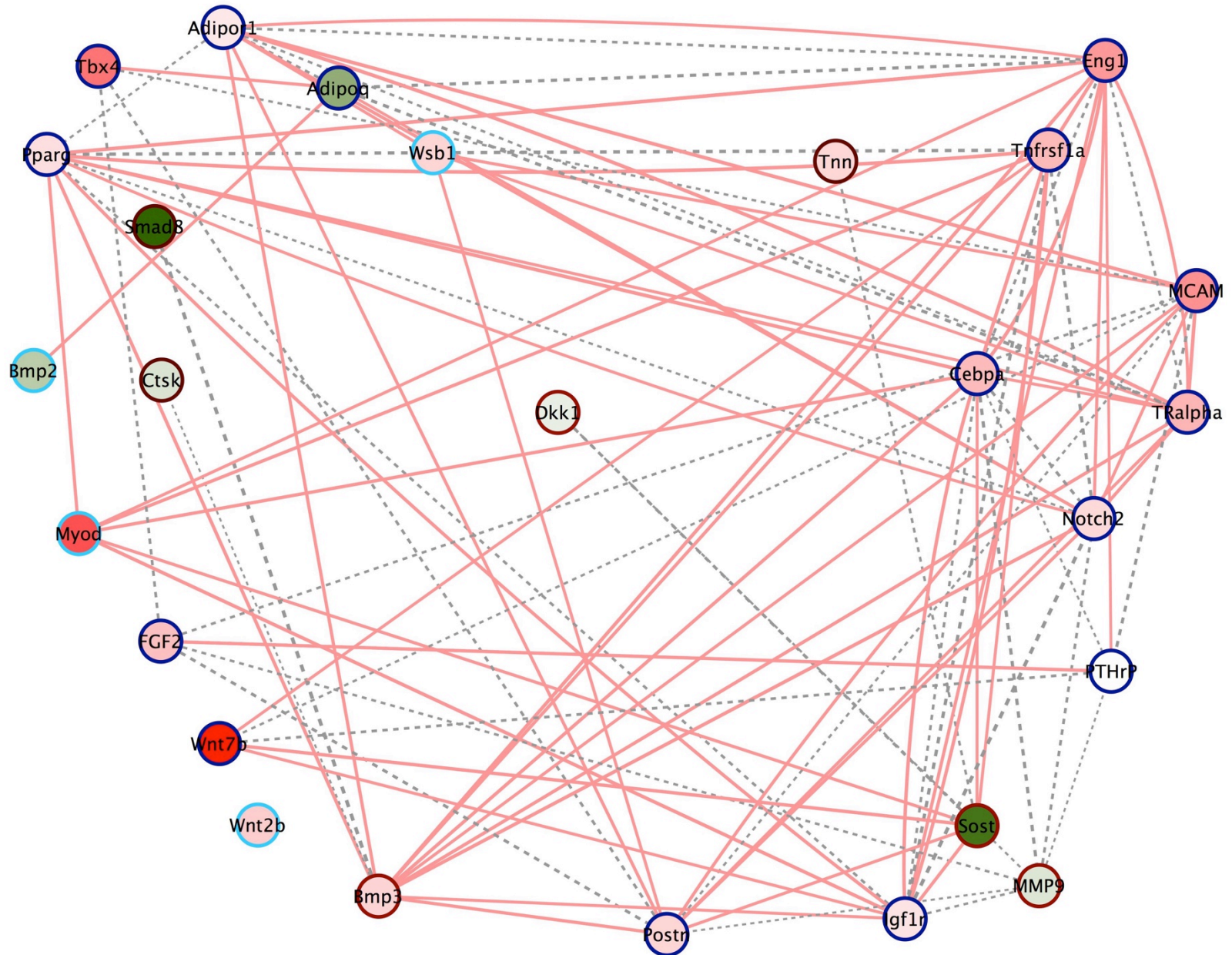


Fig S5 Differential Expression Networks – Knockout Pre-facture

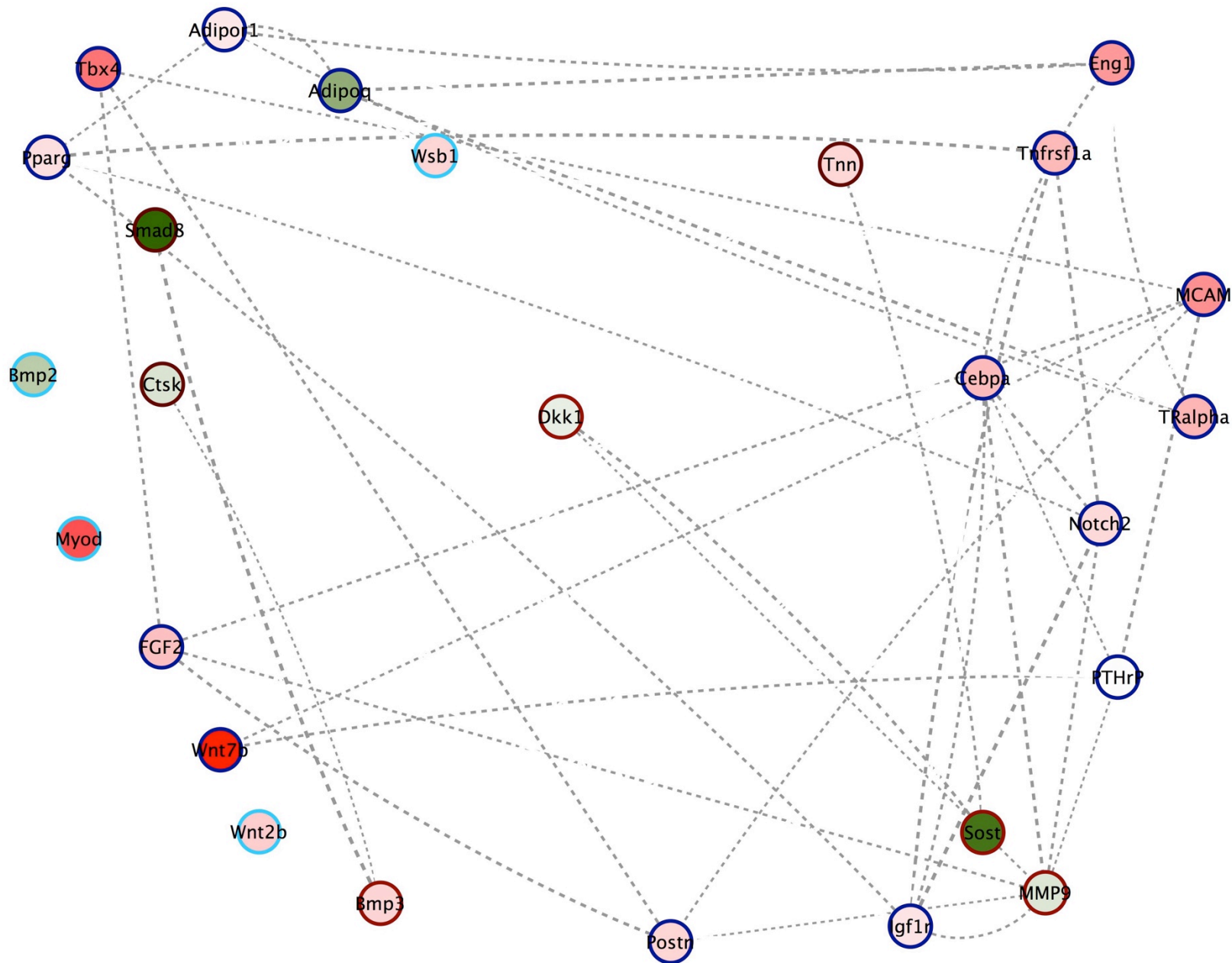


Fig S6 Differential Expression Networks – Knockout Post-facture

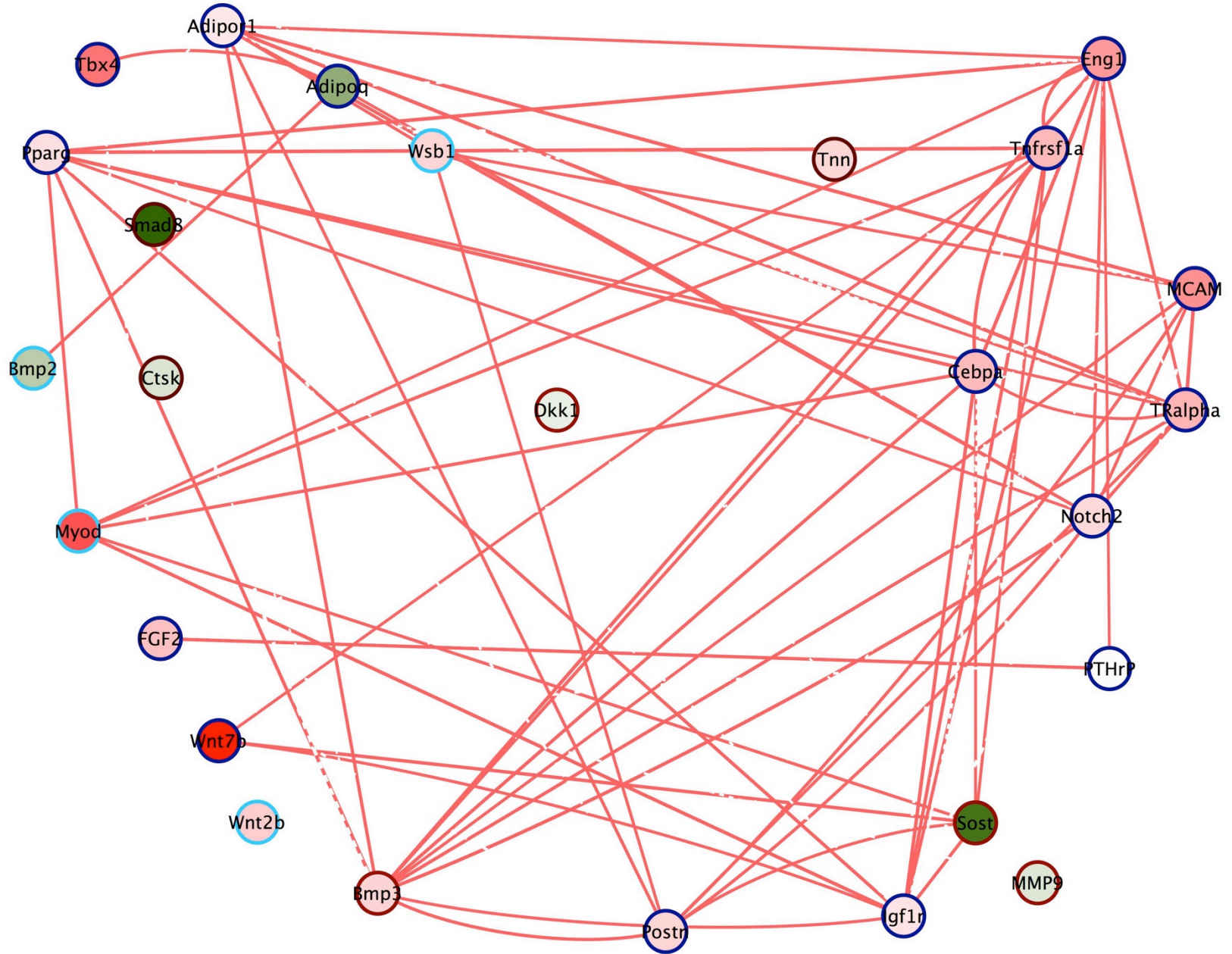


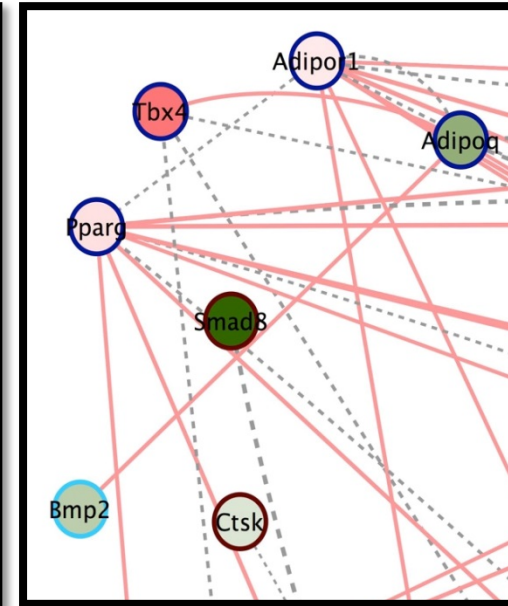
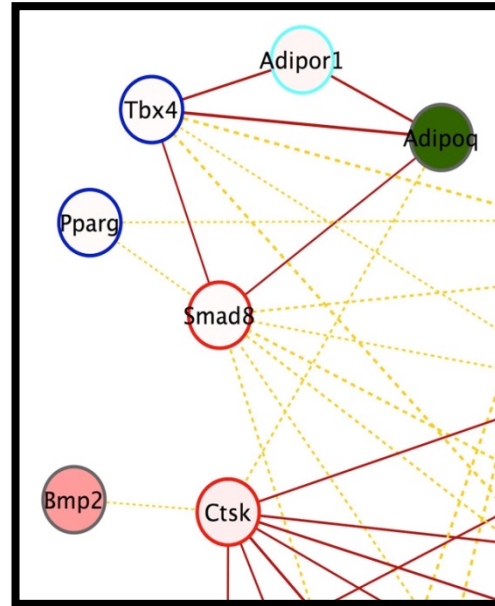
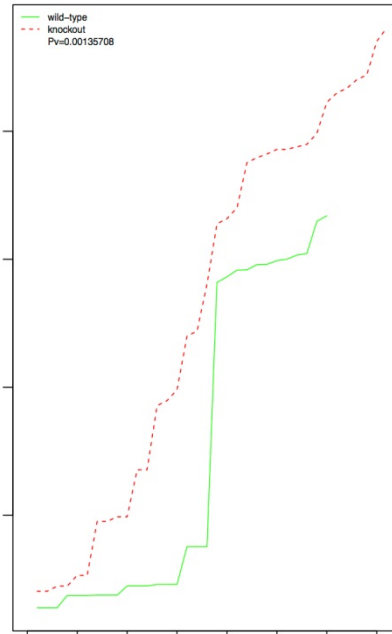
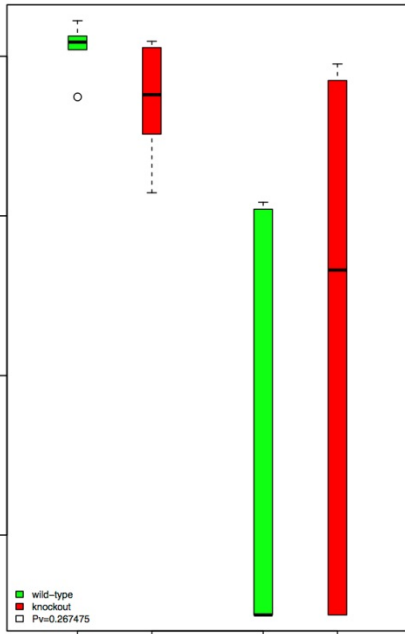
Fig S8 Adipoq

pre pre post post

Differential Expression

Wild-type

Knockout

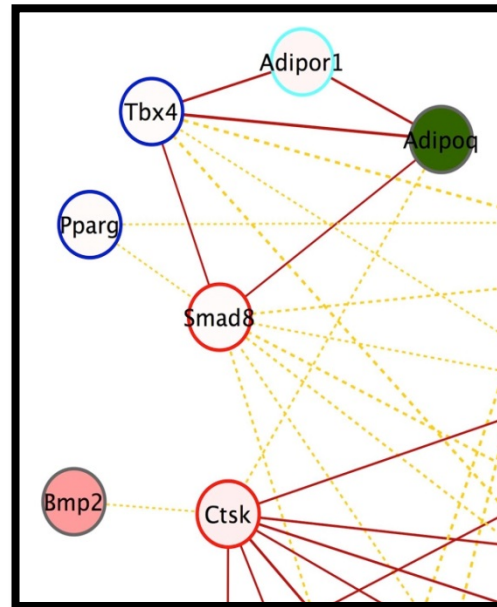


Networks	Gene.a	Gene.b	Corr	P
wt_pre	Adipoq	Ctsk	0.90	0.01
wt_24hrs	Adipoq	Adipor1	-0.93	0.02
wt_24hrs	Adipoq	Smad8	0.88	0.047
wt_24hrs	Adipoq	Tbx4	0.99	2.80E-09
ko_pre	Adipoq	Adipor1	-0.88	0.02
ko_pre	Adipoq	Eng1	-0.95	0.004
ko_pre	Adipoq	TRalpha	-0.94	0.005
ko_24hrs	Adipoq	Bmp2	0.94	0.005
ko_24hrs	Adipoq	Notch2	-0.91	0.01
ko_24hrs	Adipoq	Tbx4	-0.94	0.005

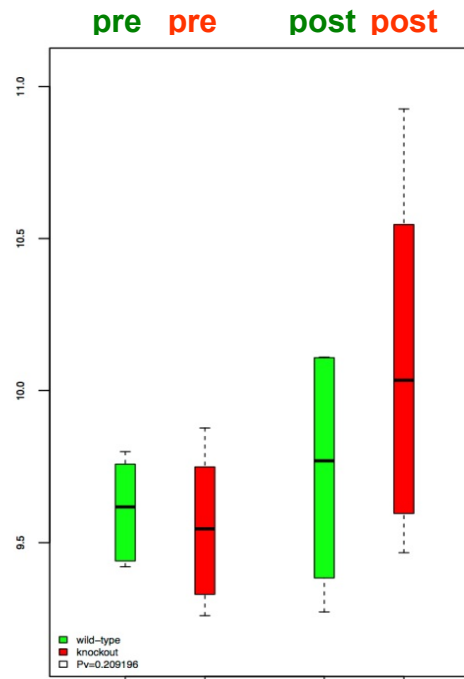
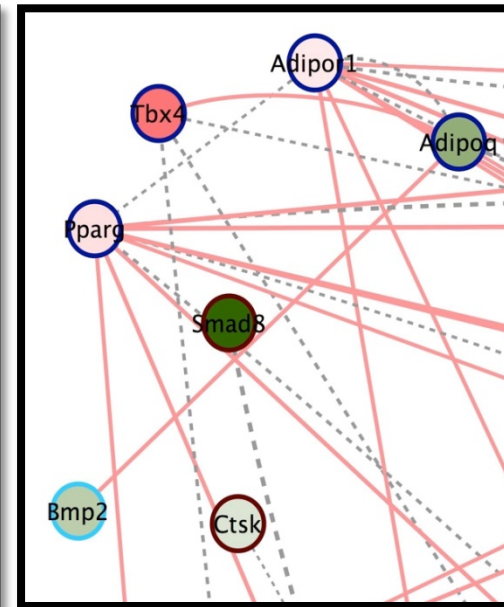
Fig S9 Adipor1

Networks	Gene.a	Gene.b	Corr	P
wt_pre	NA	NA	NA	NA
wt_24hrs	Adipor1	Tbx4	-0.93	0.02
wt_24hrs	Adipoq	Adipor1	-0.93	0.02
ko_pre	Adipor1	Eng1	0.87	0.02
ko_pre	Adipor1	Pparg	-0.85	0.03
ko_pre	Adipor1	TRalpha	0.84	0.04
ko_24hrs	Adipor1	Bmp3	0.95	0.004
ko_24hrs	Adipor1	Eng1	0.91	0.01
ko_24hrs	Adipor1	MCAM	0.99	4.5E-05
ko_24hrs	Adipor1	Notch2	0.95	0.004
ko_24hrs	Adipor1	Postn	0.94	0.006
ko_24hrs	Adipor1	TRalpha	0.997	1.2E-05
ko_24hrs	Adipor1	Wsb1	0.91	0.01

Wild-type



Knockout



Differential Expression

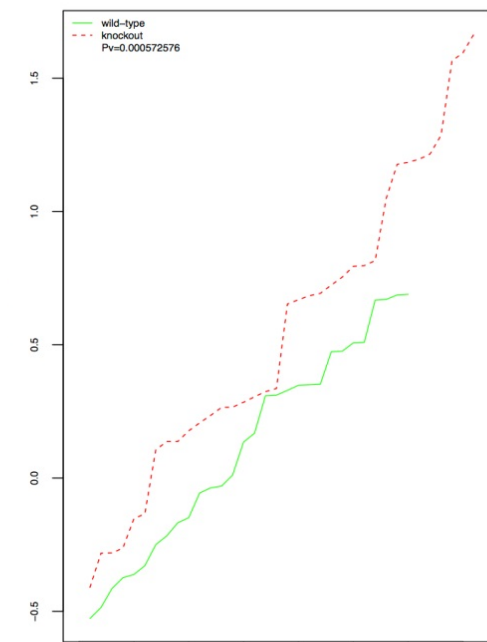
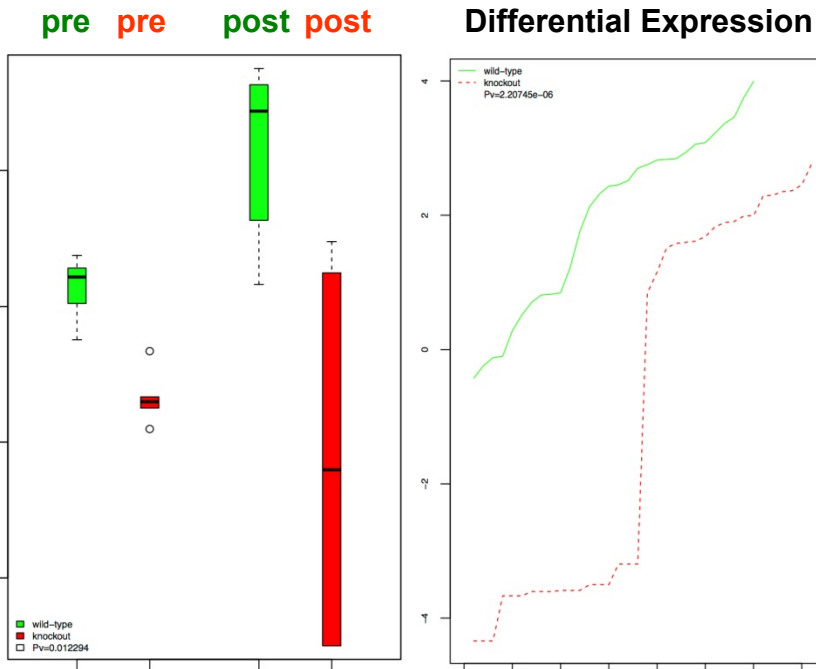
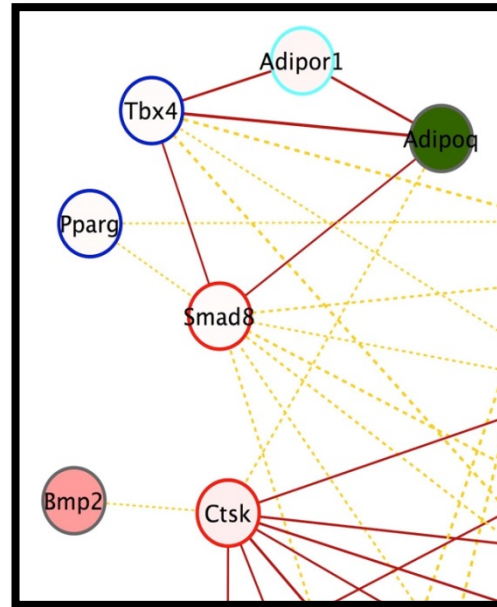


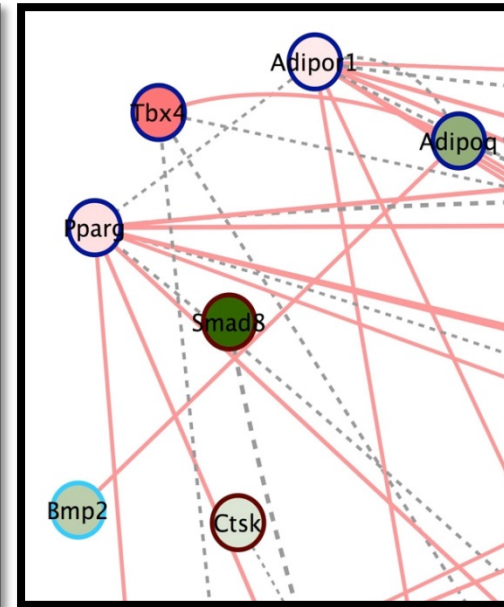
Fig S10 Bmp2



Wild-type



Knockout

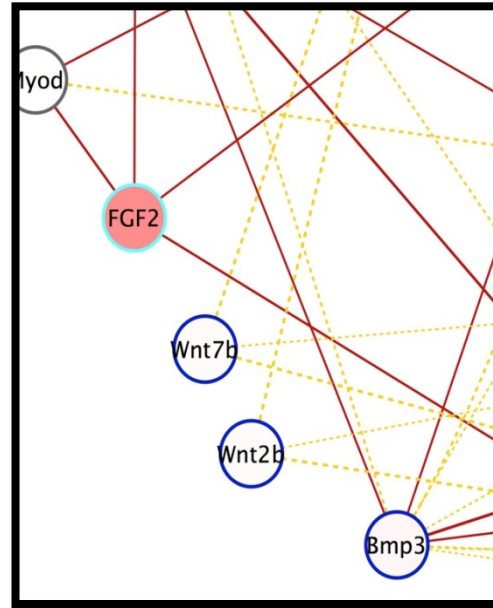


Networks	Gene.a	Gene.b	Corr	<i>P</i>
wt_pre	Bmp2	Ctsk	0.85	0.03
wt_24hrs	NA	NA	NA	NA
ko_pre	NA	NA	NA	NA
ko_24hrs	Adipoq	Bmp2	0.94	0.005

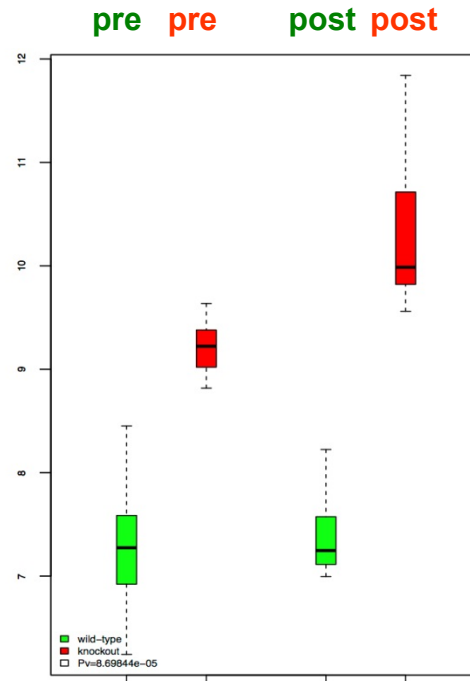
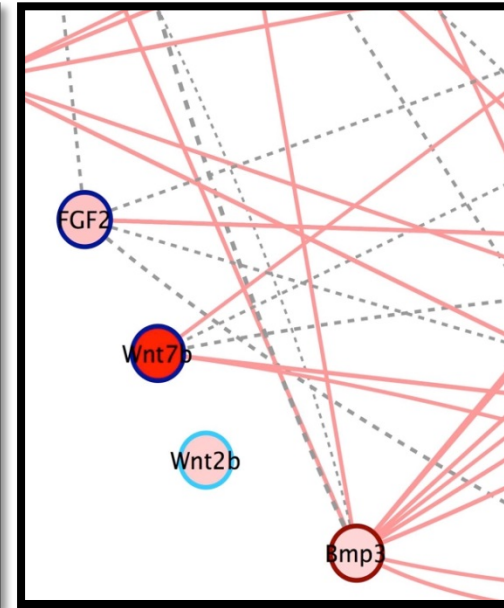
Fig S11 Bmp3

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Bmp3	Dkk1	0.95	0.004
wt_pre	Bmp3	Igf1r	-0.86	0.03
wt_pre	Bmp3	Notch2	-0.83	0.04
wt_pre	Bmp3	Postn	0.84	0.04
wt_pre	Bmp3	Smad8	0.92	0.01
wt_pre	Bmp3	Sost	0.90	0.01
wt_pre	Bmp3	Tnn	0.87	0.02
wt_24hrs	Bmp3	Ctsk	0.90	0.04
wt_24hrs	Bmp3	Dkk1	0.90	0.04
wt_24hrs	Bmp3	PTHrP	-0.996	0.0002
wt_24hrs	Bmp3	Sost	0.91	0.03
ko_pre	Bmp3	Ctsk	-0.81	0.049
ko_pre	Bmp3	Smad8	0.99	4.94E-05
ko_24hrs	Bmp3	Cebpa	0.97	0.002
ko_24hrs	Bmp3	Eng1	0.98	0.0006
ko_24hrs	Bmp3	Igf1r	0.91	0.01
ko_24hrs	Bmp3	MCAM	0.92	0.008
ko_24hrs	Bmp3	Notch2	0.98	0.0005
ko_24hrs	Bmp3	Postn	0.94	0.004
ko_24hrs	Bmp3	Pparg	0.97	0.002
ko_24hrs	Bmp3	Tnfrsf1a	0.95	0.004
ko_24hrs	Bmp3	TRalpha	0.96	0.002

Wild-type



Knockout



Differential Expression

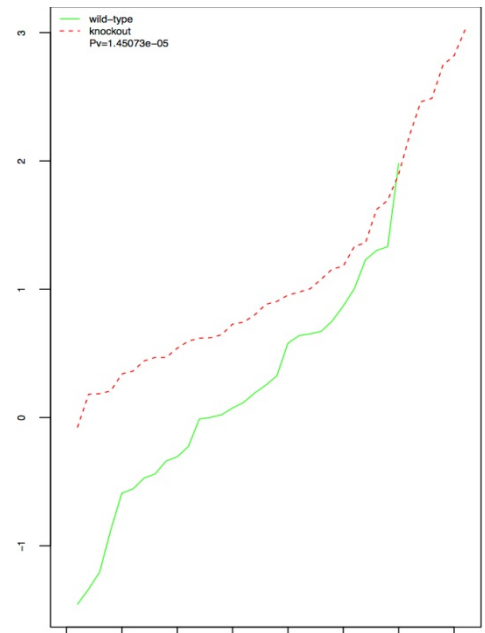
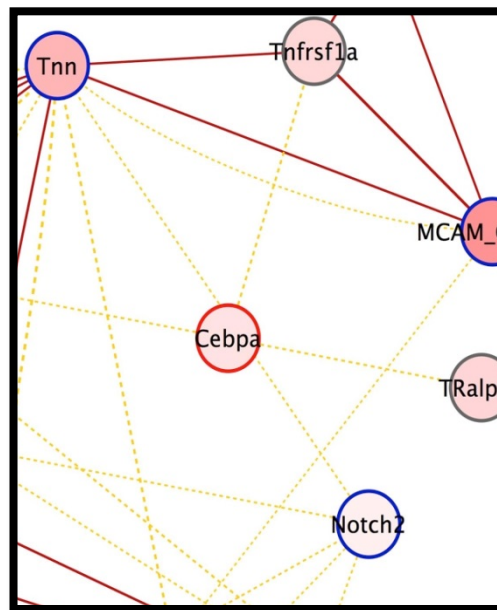


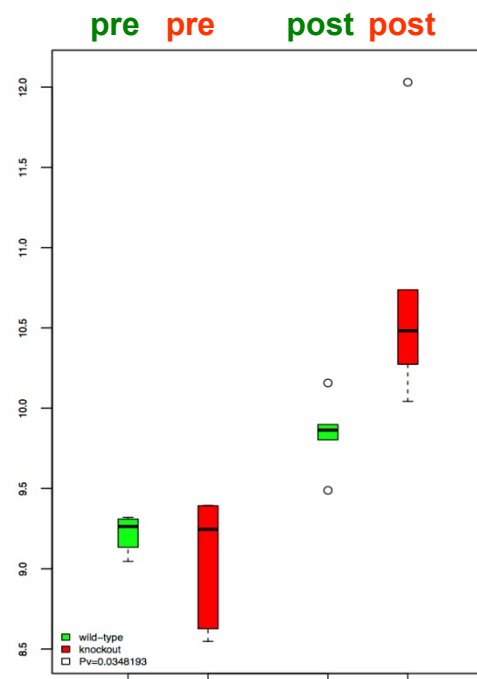
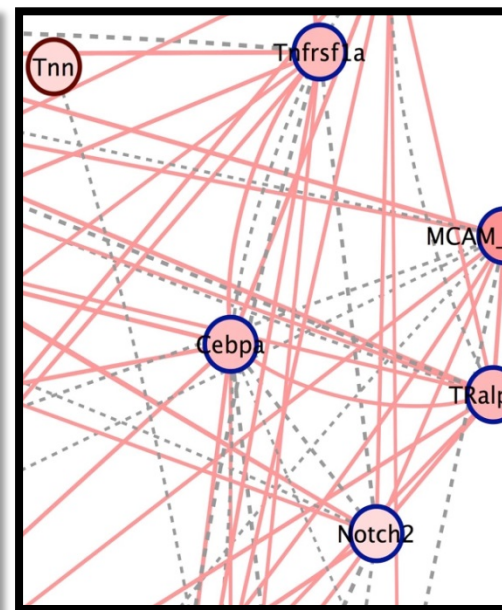
Fig S12 Cebpa

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Cebpa	Smad8	-0.85	0.03
wt_pre	Cebpa	Tnfrsf1a	0.90	0.01
wt_pre	Cebpa	TRalpha	0.88	0.02
wt_24hrs	NA	NA	NA	NA
ko_pre	Cebpa	Eng1	0.86	0.03
ko_pre	Cebpa	Igf1r	0.86	0.03
ko_pre	Cebpa	MMP9	0.94	0.006
ko_pre	Cebpa	Notch2	0.89	0.02
ko_pre	Cebpa	PTHrP	-0.83	0.04
ko_24hrs	Cebpa	Eng1	0.99	0.0001
ko_24hrs	Cebpa	Igf1r	0.98	0.0008
ko_24hrs	Cebpa	Myod	0.96	0.003
ko_24hrs	Cebpa	Pparg	0.99	7.69E-05
ko_24hrs	Cebpa	Sost	0.91	0.01
ko_24hrs	Cebpa	Tnfrsf1a	0.98	0.0006
ko_24hrs	Cebpa	TRalpha	0.91	0.01
ko_24hrs	Bmp3	Cebpa	0.97	0.002

Wild-type



Knockout



Differential Expression

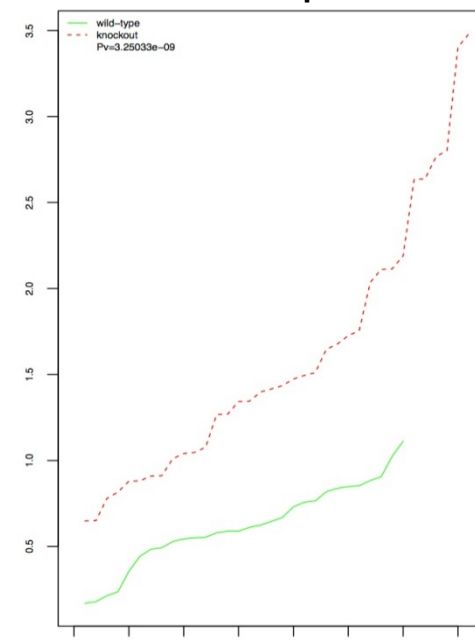
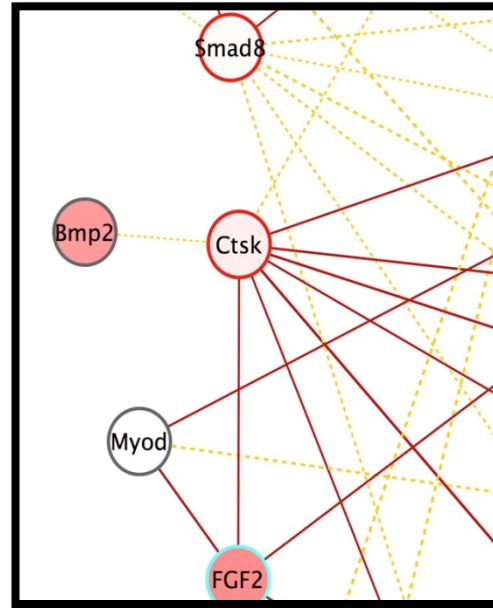


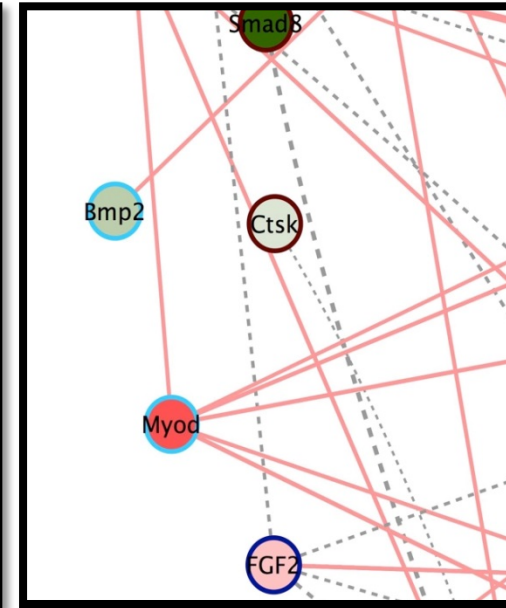
Fig S13 Ctsk

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Adipoq	Ctsk	0.90	0.01
wt_pre	Bmp2	Ctsk	0.85	0.03
wt_24hrs	Ctsk	Dkk1	0.93	0.02
wt_24hrs	Ctsk	FGF2	-0.89	0.045
wt_24hrs	Ctsk	Postn	0.98	0.004
wt_24hrs	Ctsk	PTHrP	-0.93	0.02
wt_24hrs	Ctsk	Sost	0.90	0.04
wt_24hrs	Ctsk	Tnn	0.91	0.03
wt_24hrs	Bmp3	Ctsk	0.90	0.04
ko_pre	Bmp3	Ctsk	-0.81	0.049
ko_24hrs	NA	NA	NA	NA

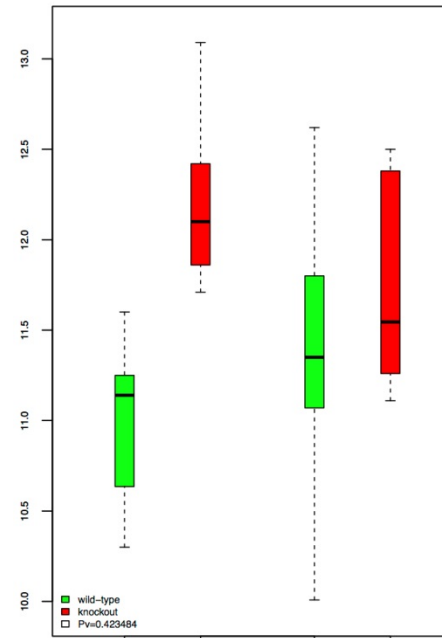
Wild-type



Knockout



pre pre post post



Differential Expression

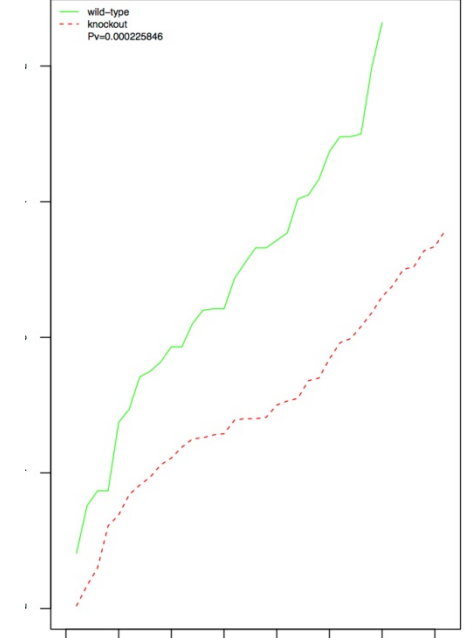
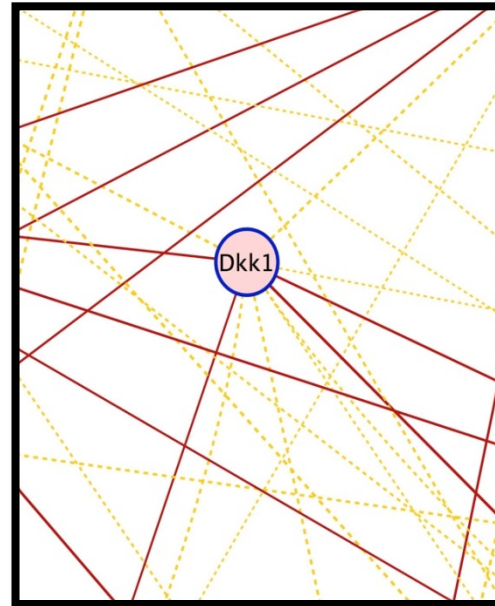


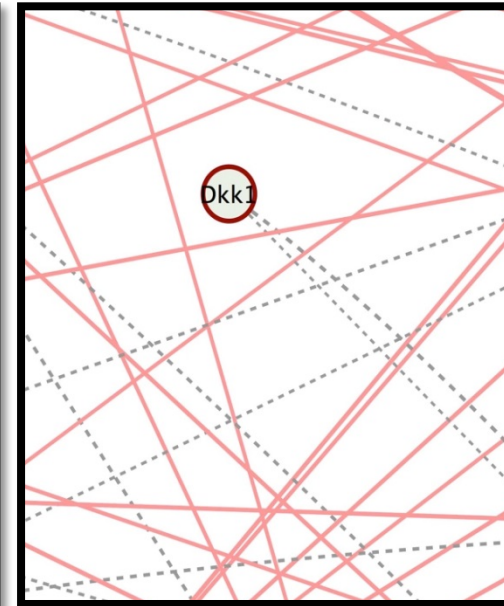
Fig S14 Dkk1

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Dkk1	Igf1r	-0.86	0.03
wt_pre	Dkk1	Notch2	-0.84	0.04
wt_pre	Dkk1	Postn	0.96	0.002
wt_pre	Dkk1	Smad8	0.96	0.003
wt_pre	Dkk1	Sost	0.91	0.01
wt_pre	Dkk1	Tnn	0.96	0.002
wt_pre	Bmp3	Dkk1	0.95	0.004
wt_24hrs	Dkk1	PTHrP	-0.93	0.02
wt_24hrs	Dkk1	Sost	0.99	0.0008
wt_24hrs	Bmp3	Dkk1	0.90	0.04
wt_24hrs	Ctsk	Dkk1	0.93	0.02
ko_pre	Dkk1	MMP9	-0.83	0.04
ko_pre	Dkk1	Sost	0.90	0.02
ko_24hrs	NA	NA	NA	NA

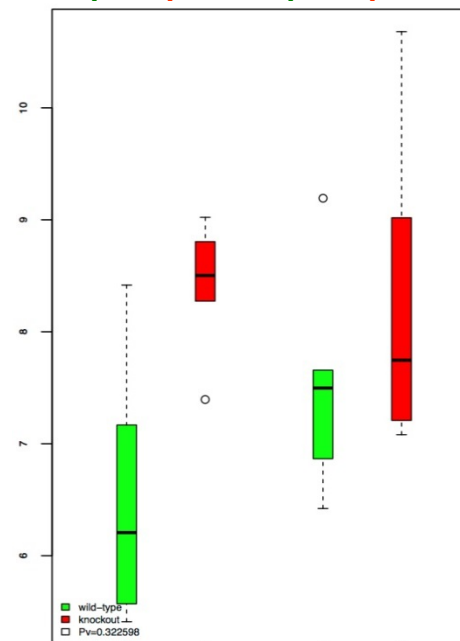
Wild-type



Knockout



pre pre post post



Differential Expression

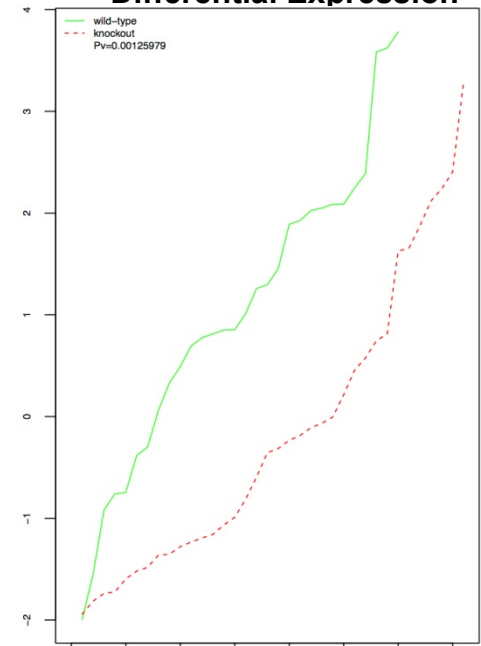
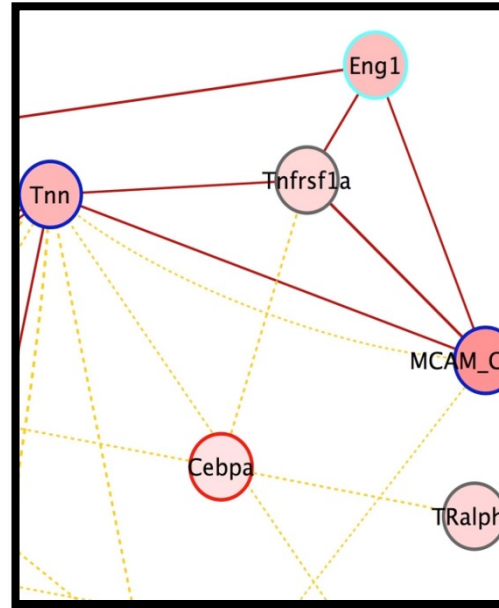


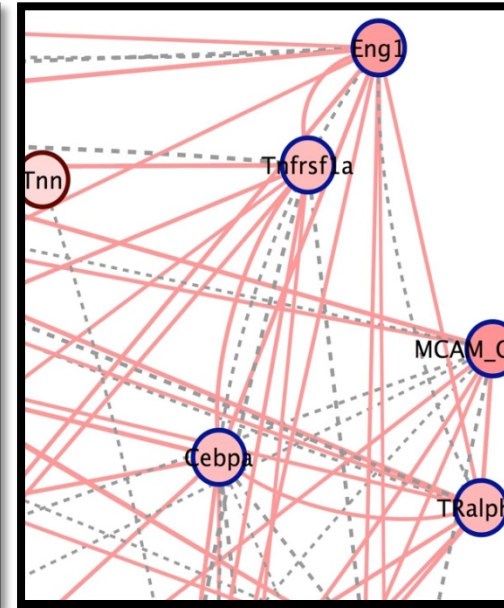
Fig S15 Eng1

Networks	Gene.a	Gene.b	Corr	P
wt_pre	NA	NA	NA	NA
wt_24hrs	Eng1	MCAM	0.92	0.03
wt_24hrs	Eng1	Tnfrsf1a	0.94	0.02
wt_24hrs	Eng1	Wsb1	0.95	0.01
ko_pre	Eng1	TRalpha	0.85	0.03
ko_pre	Adipoq	Eng1	-0.95	0.004
ko_pre	Adipor1	Eng1	0.87	0.02
ko_pre	Cebpa	Eng1	0.86	0.03
ko_24hrs	Eng1	Igf1r	0.95	0.004
ko_24hrs	Eng1	Myod	0.92	0.01
ko_24hrs	Eng1	Notch2	0.93	0.008
ko_24hrs	Eng1	Pparg	0.995	3.39E-05
ko_24hrs	Eng1	PTHrP	-0.90	0.01
ko_24hrs	Eng1	Tnfrsf1a	0.98	0.0009
ko_24hrs	Eng1	TRalpha	0.93	0.007
ko_24hrs	Adipor1	Eng1	0.91	0.01
ko_24hrs	Bmp3	Eng1	0.98	0.0006
ko_24hrs	Cebpa	Eng1	0.99	0.0001

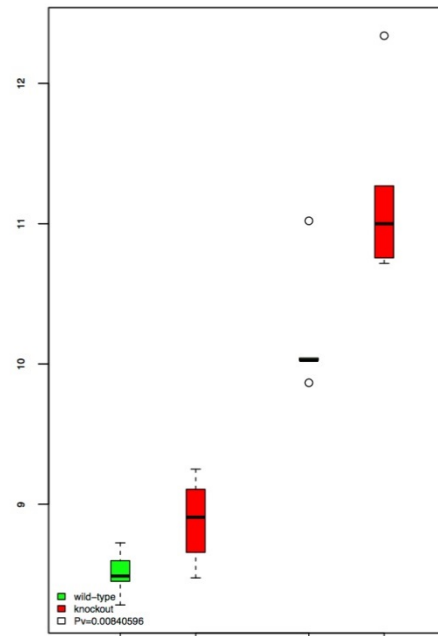
Wild-type



Knockout



pre pre post post



Differential Expression

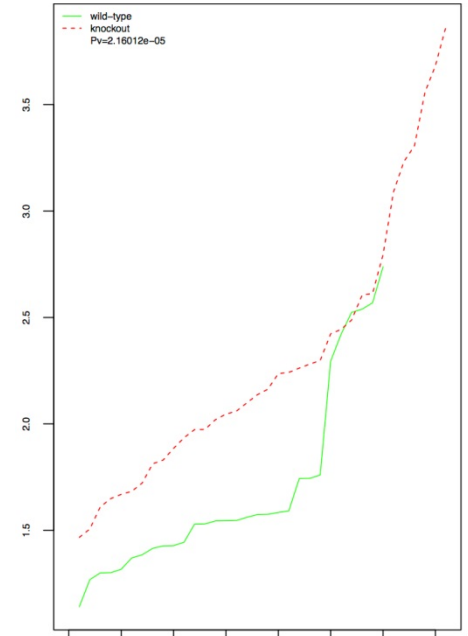
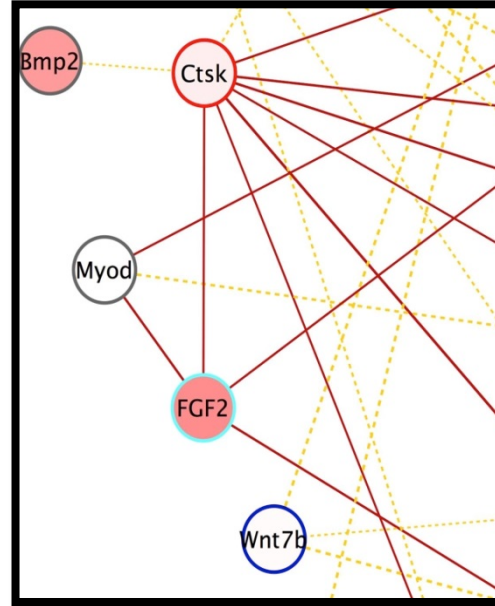


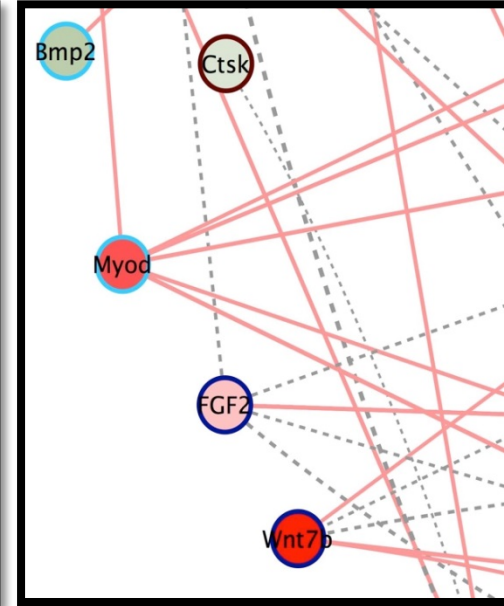
Fig S16 Fgf2

Networks	Gene.a	Gene.b	Corr	P
wt_pre	NA	NA	NA	NA
wt_24hrs	FGF2	Myod	0.94	0.02
wt_24hrs	FGF2	Postn	-0.92	0.03
wt_24hrs	FGF2	Tnn	-0.89	0.04
wt_24hrs	Ctsk	FGF2	-0.89	0.045
ko_pre	FGF2	MCAM	0.85	0.03
ko_pre	FGF2	MMP9	-0.87	0.02
ko_pre	FGF2	Postn	0.90	0.01
ko_pre	FGF2	Tbx4	0.87	0.02
ko_24hrs	FGF2	PTHrP	0.96	0.003

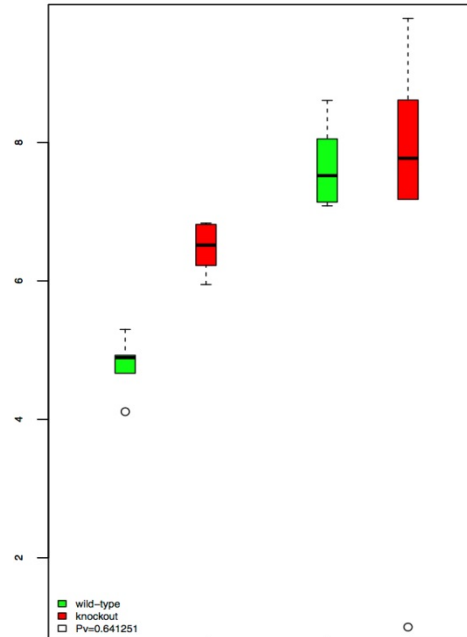
Wild-type



Knockout



pre pre post post



Differential Expression

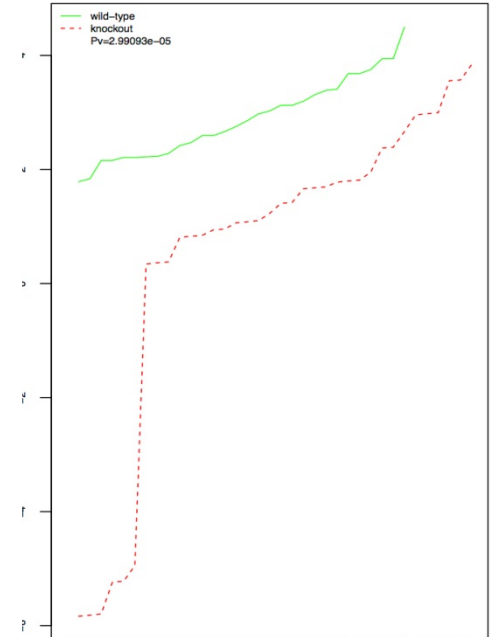
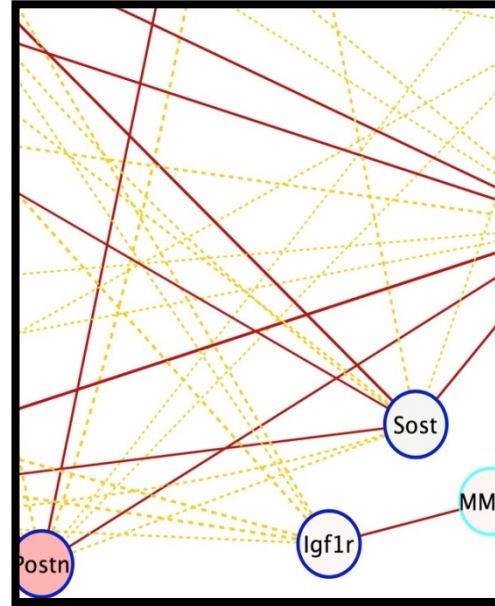


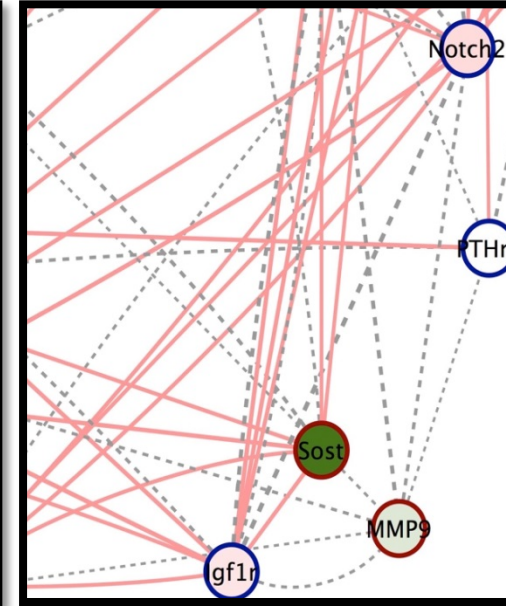
Fig S17 Igf1r

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Igf1r	Tbx4	-0.98	0.0008
wt_pre	Igf1r	Wnt2b	-0.98	0.0008
wt_pre	Igf1r	Wnt7b	-0.98	0.0008
wt_pre	Igf1r	Wsb1	0.95	0.004
wt_pre	Bmp3	Igf1r	-0.86	0.03
wt_pre	Dkk1	Igf1r	-0.86	0.03
wt_24hrs	Igf1r	MMP9	0.93	0.02
ko_pre	Igf1r	MMP9	0.82	0.045
ko_pre	Igf1r	Notch2	0.99	7.55E-05
ko_pre	Igf1r	Pparg	-0.89	0.02
ko_pre	Igf1r	Tnfrsf1a	0.95	0.004
ko_pre	Cebpa	Igf1r	0.86	0.03
ko_24hrs	Igf1r	Myod	0.98	0.0005
ko_24hrs	Igf1r	Pparg	0.96	0.002
ko_24hrs	Igf1r	Sost	0.95	0.004
ko_24hrs	Igf1r	Tnfrsf1a	0.96	0.002
ko_24hrs	Igf1r	Wnt7b	0.92	0.01
ko_24hrs	Bmp3	Igf1r	0.91	0.01
ko_24hrs	Cebpa	Igf1r	0.98	0.0008
ko_24hrs	Eng1	Igf1r	0.95	0.004

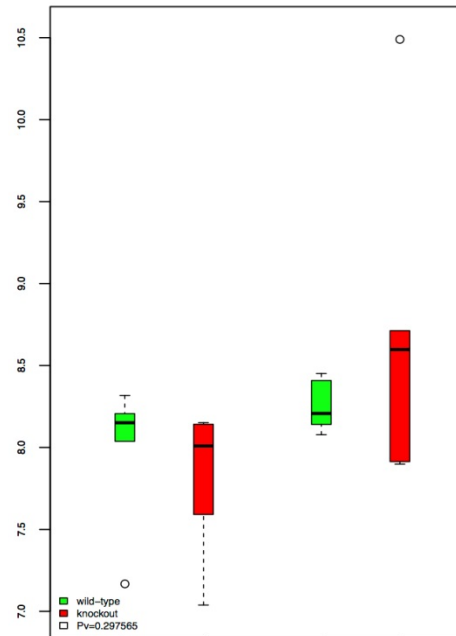
Wild-type



Knockout



pre pre post post



Differential Expression

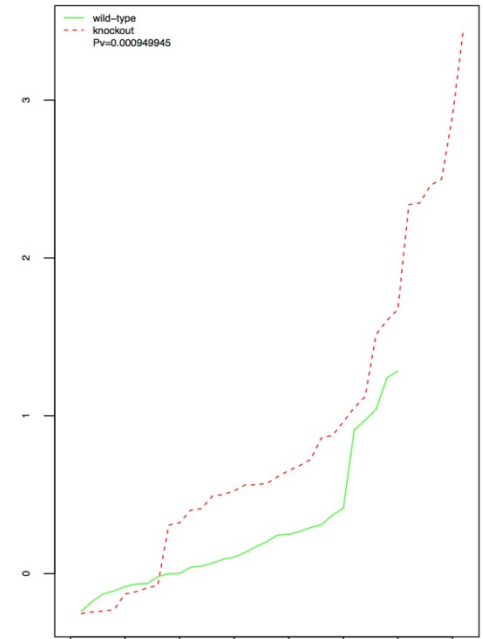
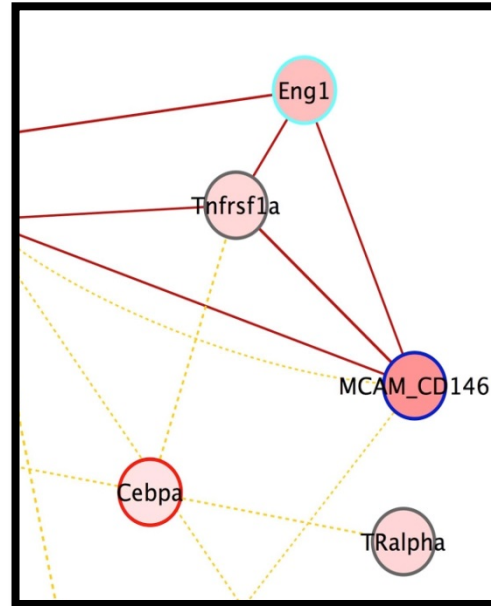


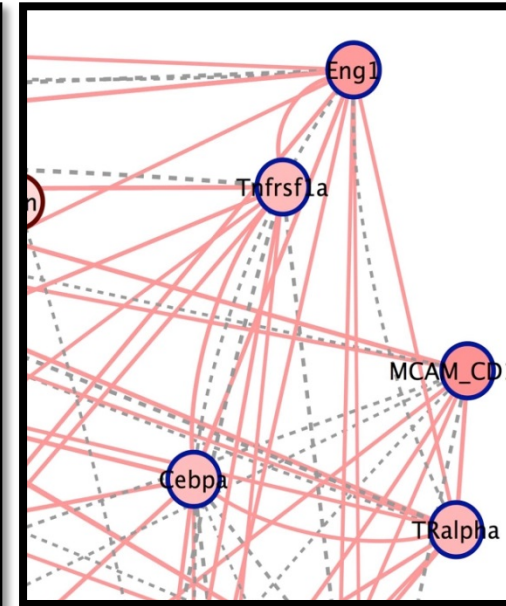
Fig S18 MCAM

Networks	Gene.a	Gene.b	Corr	P
wt_pre	MCAM	Postn	0.84	0.04
wt_pre	MCAM	Tnn	0.85	0.03
wt_24hrs	MCAM	Tnfrsf1a	0.996	0.0003
wt_24hrs	MCAM	Tnn	-0.91	0.03
wt_24hrs	Eng1	MCAM	0.92	0.03
ko_pre	MCAM	Postn	0.81	0.049
ko_pre	MCAM	PTHrP	0.91	0.01
ko_pre	MCAM	Tbx4	0.82	0.04
ko_pre	MCAM	Wnt7b	0.82	0.047
ko_pre	FGF2	MCAM	0.85	0.03
ko_24hrs	MCAM	Notch2	0.92	0.008
ko_24hrs	MCAM	Postn	0.94	0.005
ko_24hrs	MCAM	TRalpha	0.99	0.0003
ko_24hrs	MCAM	Wsb1	0.92	0.009
ko_24hrs	Adipor1	MCAM	0.99	4.54E-05
ko_24hrs	Bmp3	MCAM	0.92	0.008

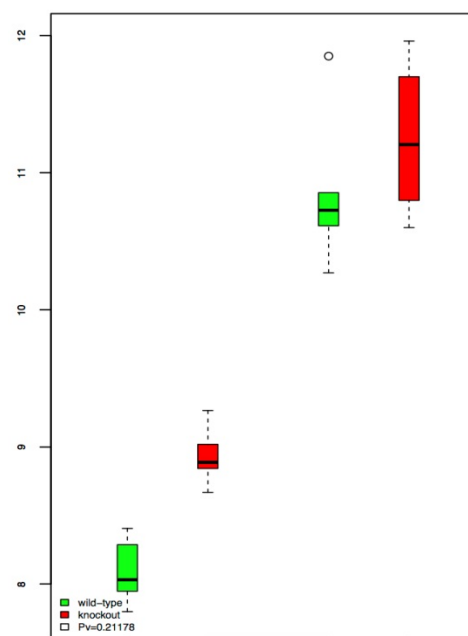
Wild-type



Knockout



pre pre post post



Differential Expression

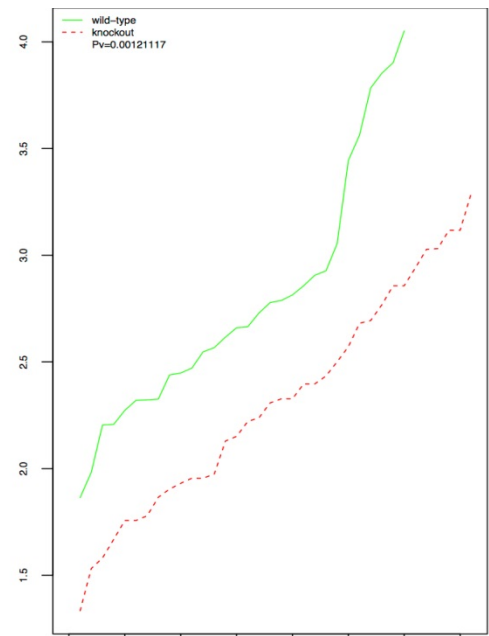
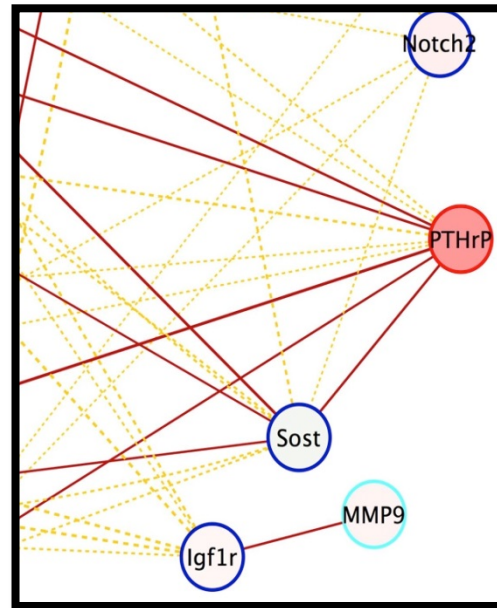


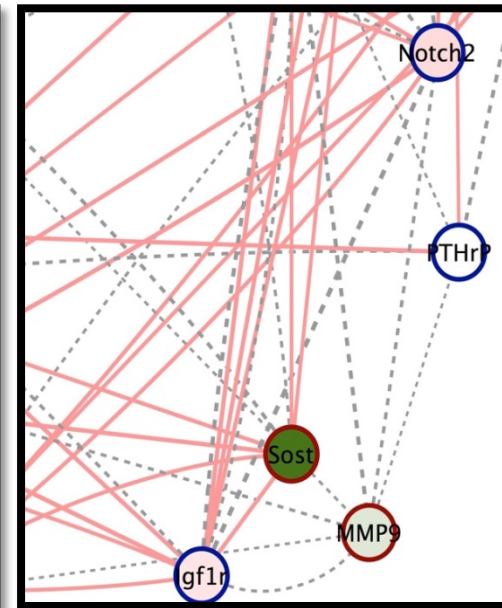
Fig S19 MMP9

Networks	Gene.a	Gene.b	Corr	P
wt_pre	NA	NA	NA	NA
wt_24hrs	Igf1r	MMP9	0.93	0.02
ko_pre	MMP9	Notch2	0.87	0.02
ko_pre	MMP9	Postn	-0.83	0.04
ko_pre	MMP9	PTHrP	-0.82	0.047
ko_pre	Cebpa	MMP9	0.94	0.006
ko_pre	Dkk1	MMP9	-0.83	0.04
ko_pre	FGF2	MMP9	-0.87	0.02
ko_pre	Igf1r	MMP9	0.82	0.045
ko_24hrs	NA	NA	NA	NA

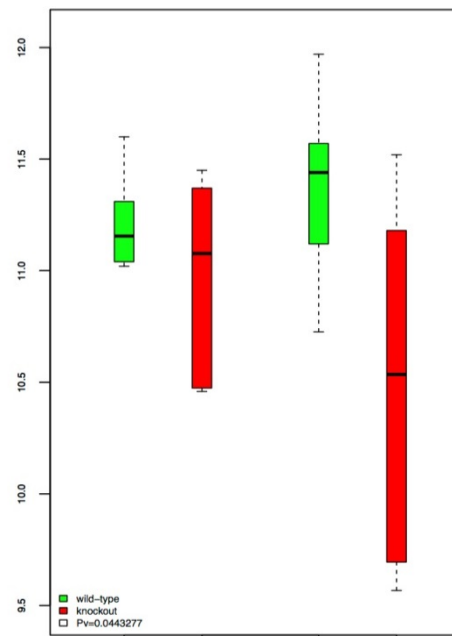
Wild-type



Knockout



pre pre post post



Differential Expression

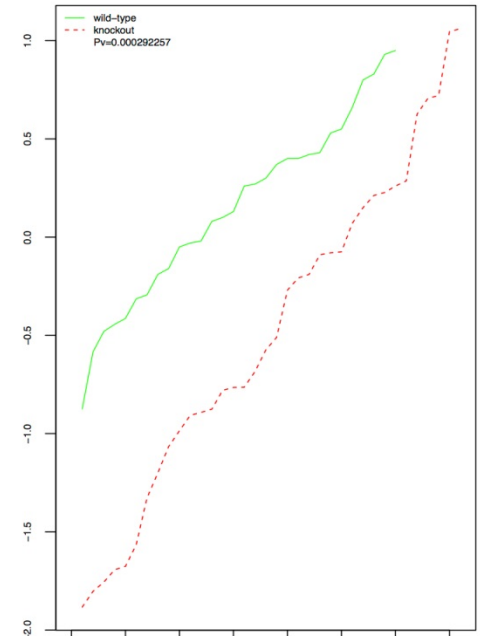
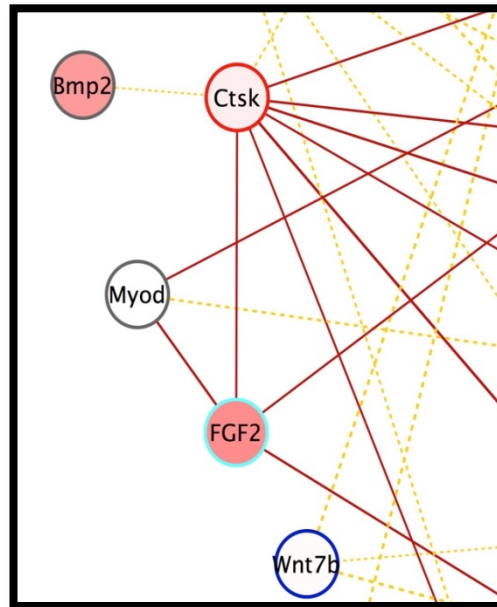


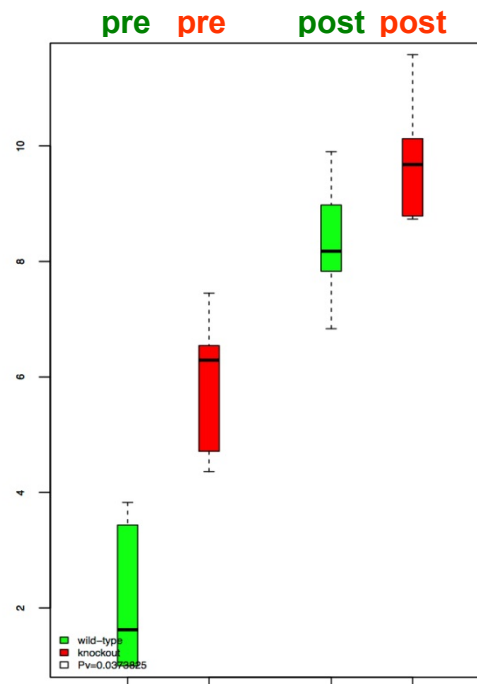
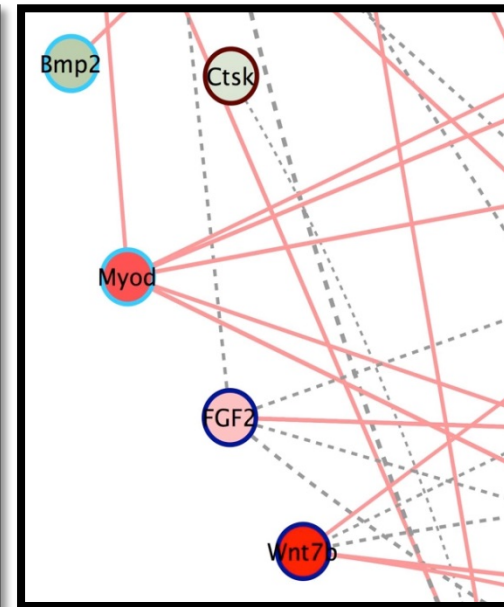
Fig S20 Myod

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Myod	PTHrP	0.94	0.005
wt_24hrs	Myod	Tnn	-0.89	0.046
wt_24hrs	FGF2	Myod	0.94	0.02
ko_pre	NA	NA	NA	NA
ko_24hrs	Myod	Pparg	0.94	0.005
ko_24hrs	Myod	Sost	0.93	0.007
ko_24hrs	Myod	Tnfrsf1a	0.96	0.003
ko_24hrs	Igf1r	Myod	0.98	0.0005
ko_24hrs	Cebpa	Myod	0.96	0.003
ko_24hrs	Eng1	Myod	0.92	0.01

Wild-type



Knockout



Differential Expression

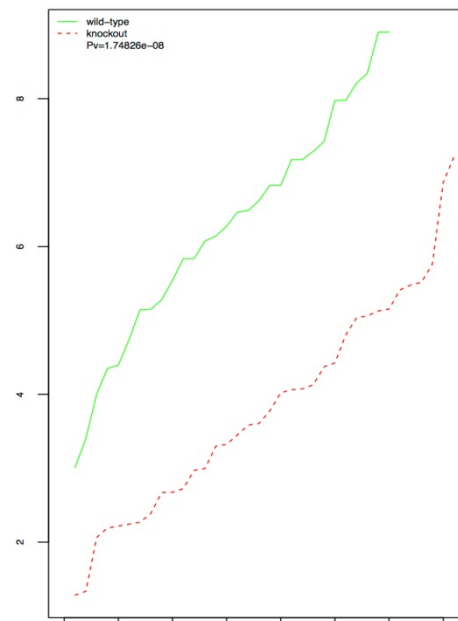
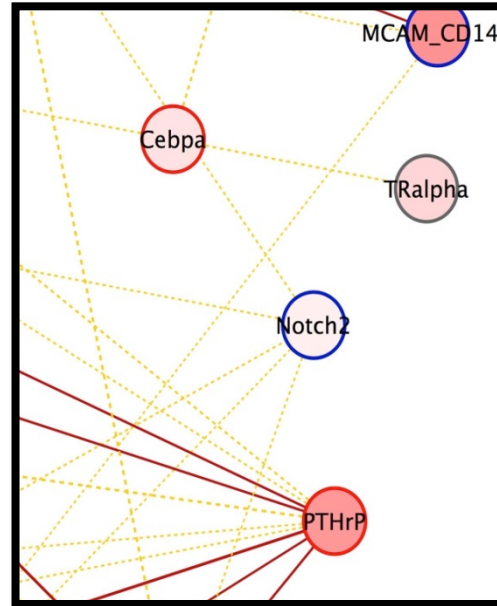


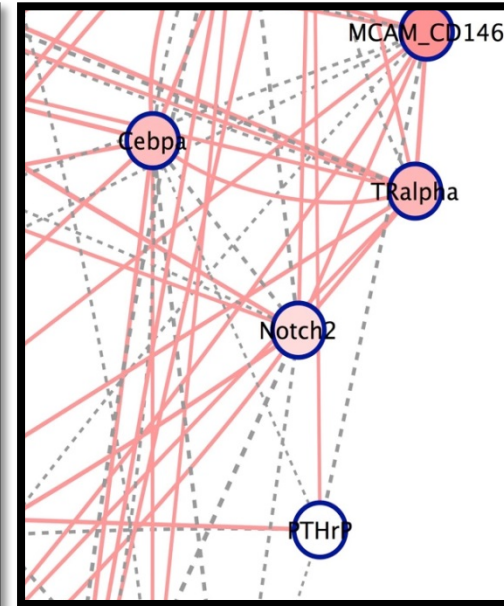
Fig S21 Notch2

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Notch2	Postn	-0.81	0.048
wt_pre	Notch2	Sost	-0.83	0.04
wt_pre	Notch2	Tnn	-0.83	0.04
wt_pre	Bmp3	Notch2	-0.83	0.04
wt_pre	Dkk1	Notch2	-0.84	0.04
wt_24hrs	NA	NA	NA	NA
ko_pre	Notch2	Pparg	-0.85	0.03
ko_pre	Notch2	Tnfrsf1a	0.93	0.008
ko_pre	Cebpa	Notch2	0.89	0.01
ko_pre	Igf1r	Notch2	0.99	7.55E-05
ko_pre	MMP9	Notch2	0.87	0.02
ko_24hrs	Notch2	Postn	0.94	0.005
ko_24hrs	Notch2	Pparg	0.91	0.01
ko_24hrs	Notch2	TRalpha	0.95	0.003
ko_24hrs	Adipoq	Notch2	-0.91	0.01
ko_24hrs	Adipor1	Notch2	0.95	0.004
ko_24hrs	Bmp3	Notch2	0.98	0.0006
ko_24hrs	Eng1	Notch2	0.93	0.008
ko_24hrs	MCAM_CD146	Notch2	0.92	0.008

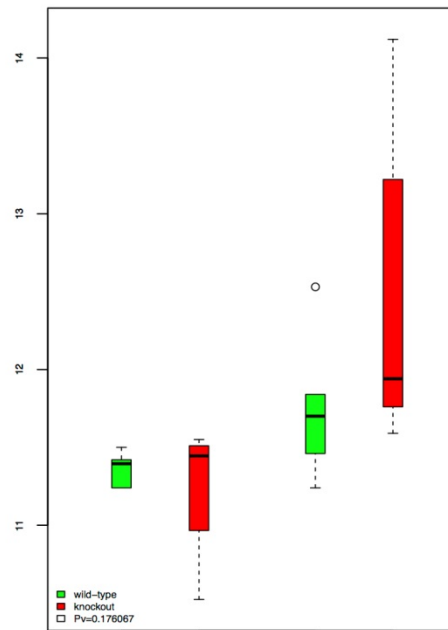
Wild-type



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Differential Expression

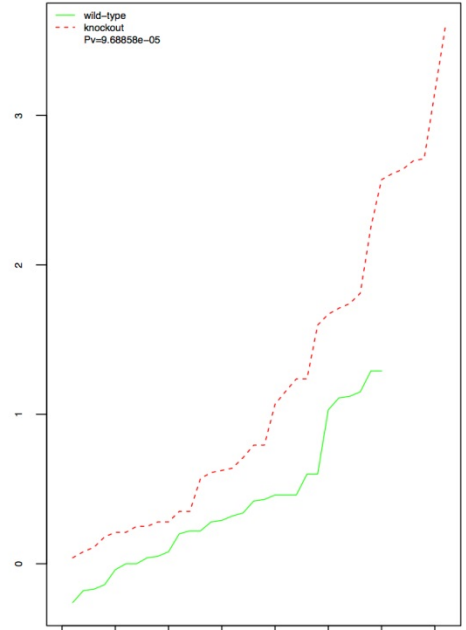
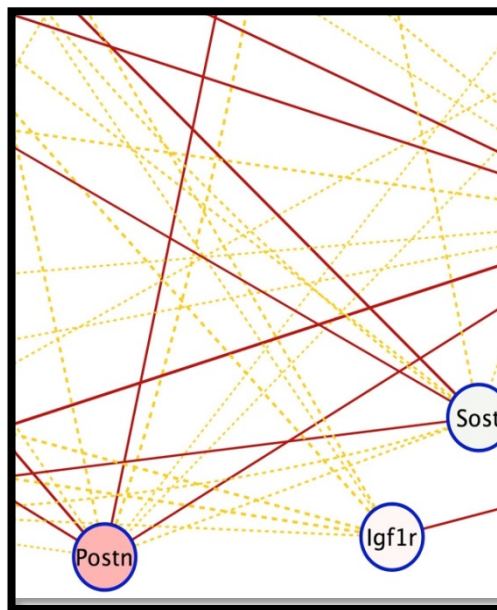


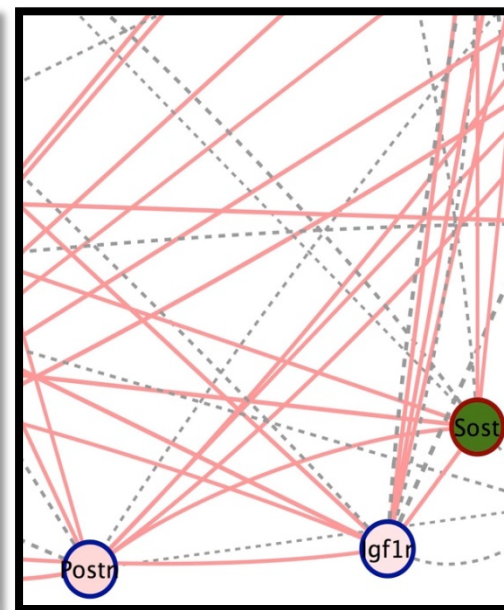
Fig S22 Postn

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Postn	Smad8	0.90	0.01
wt_pre	Postn	Sost	0.89	0.02
wt_pre	Postn	Tnn	0.99	0.0001
wt_pre	Bmp3	Postn	0.84	0.04
wt_pre	Dkk1	Postn	0.96	0.002
wt_pre	MCAM	Postn	0.84	0.04
wt_pre	Notch2	Postn	-0.81	0.048
wt_24hrs	Postn	PTHrP	-0.90	0.04
wt_24hrs	Postn	Tnn	0.95	0.01
wt_24hrs	Ctsk	Postn	0.98	0.004
wt_24hrs	FGF2	Postn	-0.92	0.03
ko_pre	Postn	Tbx4	0.87	0.02
ko_pre	FGF2	Postn	0.90	0.01
ko_pre	MCAM	Postn	0.81	0.048
ko_pre	MMP9	Postn	-0.83	0.04
ko_24hrs	Postn	Sost	0.92	0.008
ko_24hrs	Postn	TRAlpha	0.93	0.008
ko_24hrs	Postn	Wsb1	0.91	0.01
ko_24hrs	Adipor1	Postn	0.94	0.006
ko_24hrs	Bmp3	Postn	0.95	0.004
ko_24hrs	MCAM	Postn	0.94	0.005
ko_24hrs	Notch2	Postn	0.94	0.005

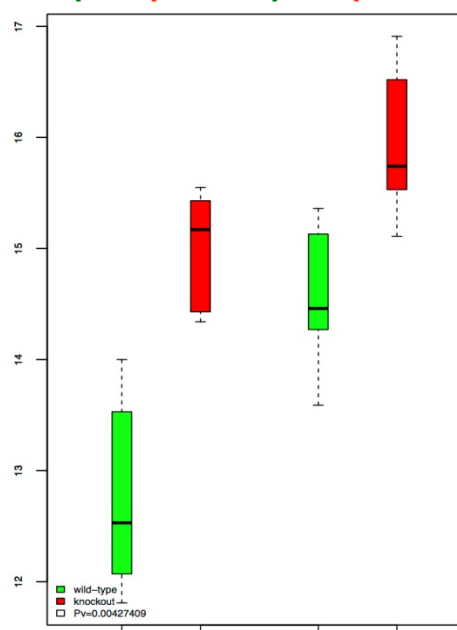
Wild-type



Knockout



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Differential Expression

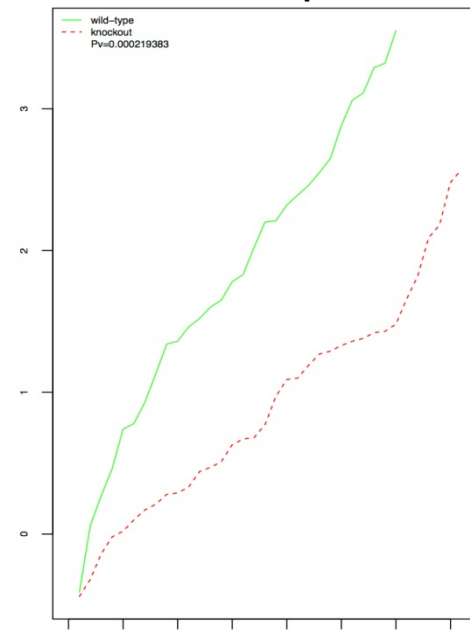
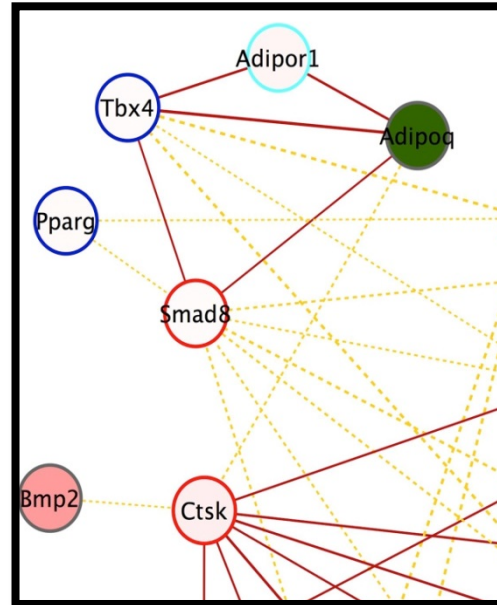


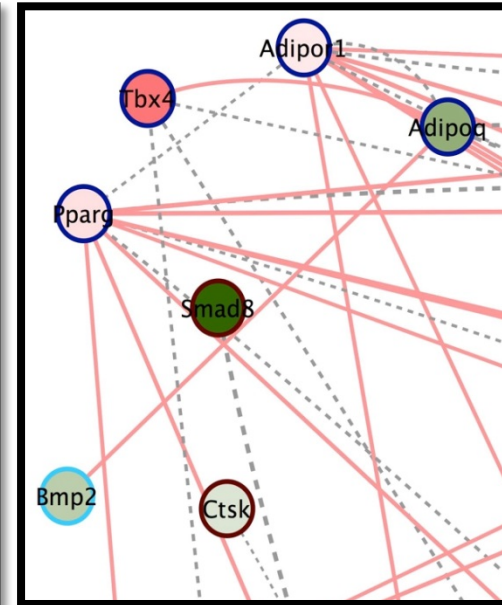
Fig S23 Pparg

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Pparg	Smad8	0.85	0.03
wt_pre	Pparg	Wsb1	-0.82	0.048
wt_24hrs	NA	NA	NA	NA
ko_pre	Pparg	Tnfrsf1a	-0.96	0.002
ko_pre	Adipor1	Pparg	-0.85	0.03
ko_pre	Igf1r	Pparg	-0.89	0.02
ko_pre	Notch2	Pparg	-0.85	0.03
ko_24hrs	Pparg	Tnfrsf1a	0.99	0.0001
ko_24hrs	Pparg	TRalpha	0.91	0.01
ko_24hrs	Bmp3	Pparg	0.97	0.002
ko_24hrs	Cebpa	Pparg	0.99	7.69E-05
ko_24hrs	Eng1	Pparg	0.995	3.39E-05
ko_24hrs	Igf1r	Pparg	0.96	0.002
ko_24hrs	Myod	Pparg	0.94	0.005
ko_24hrs	Notch2	Pparg	0.91	0.01

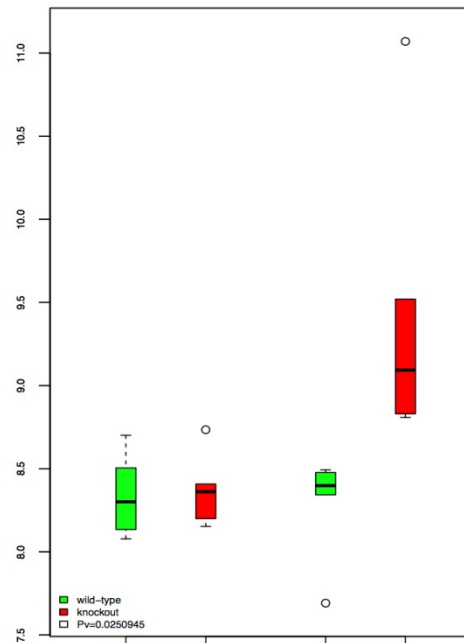
Wild-type



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Differential Expression

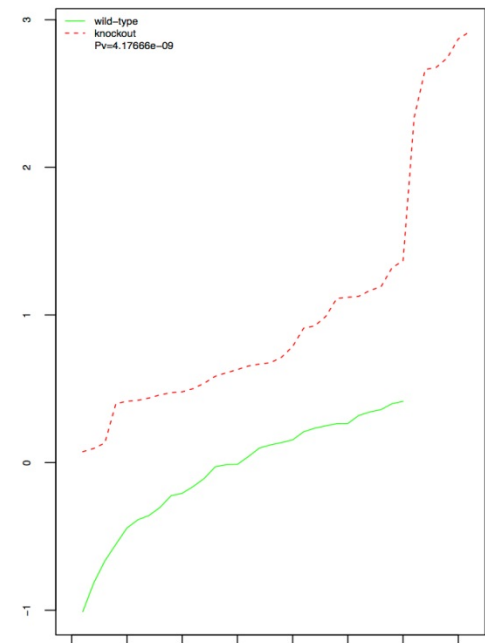
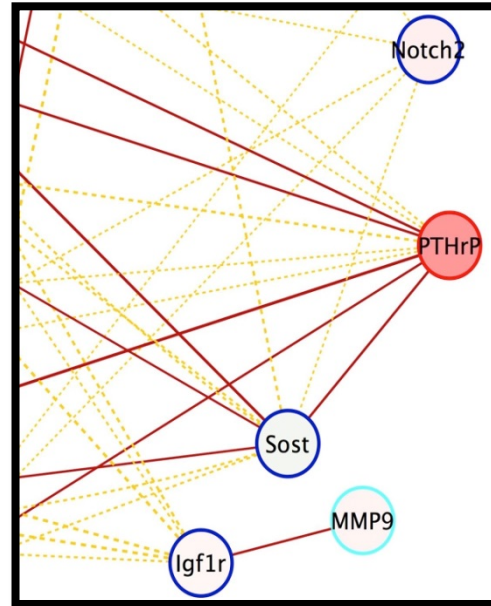


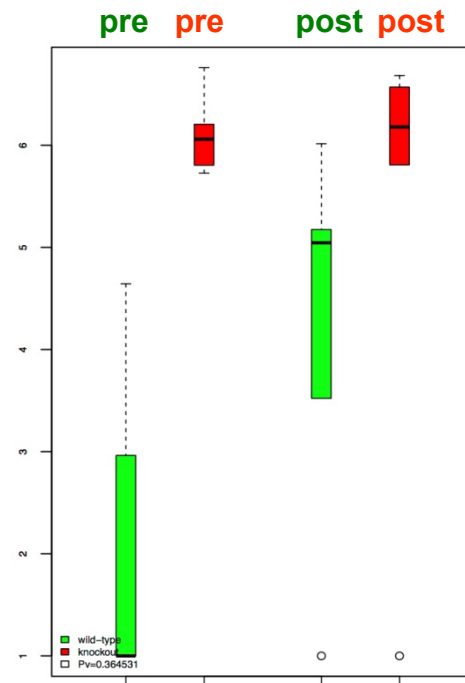
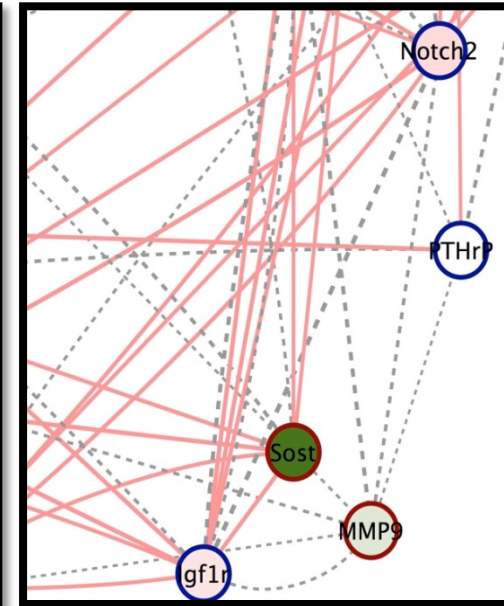
Fig S24 PTHrP

Networks	Gene.a	Gene.b	Corr	P
wt_pre	PTHrP	Tbx4	0.86	0.03
wt_pre	PTHrP	Wnt2b	0.86	0.03
wt_pre	PTHrP	Wnt7b	0.86	0.03
wt_pre	PTHrP	Wsb1	-0.87	0.02
wt_pre	Myod	PTHrP	0.94	0.005
wt_24hrs	PTHrP	Sost	-0.93	0.02
wt_24hrs	Bmp3	PTHrP	-0.997	0.0002
wt_24hrs	Ctsk	PTHrP	-0.93	0.02
wt_24hrs	Dkk1	PTHrP	-0.93	0.02
wt_24hrs	Postn	PTHrP	-0.90	0.04
ko_pre	PTHrP	Wnt7b	0.87	0.02
ko_pre	Cebpa	PTHrP	-0.83	0.04
ko_pre	MCAM	PTHrP	0.91	0.01
ko_pre	MMP9	PTHrP	-0.82	0.047
ko_24hrs	Eng1	PTHrP	-0.90	0.01
ko_24hrs	FGF2	PTHrP	0.96	0.003

Wild-type



Knockout



Differential Expression

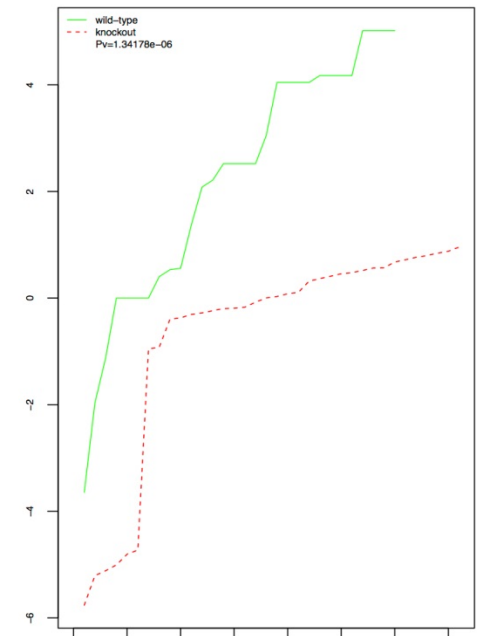
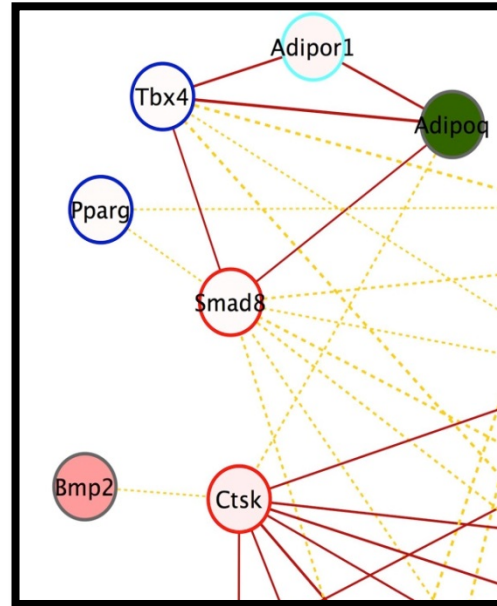


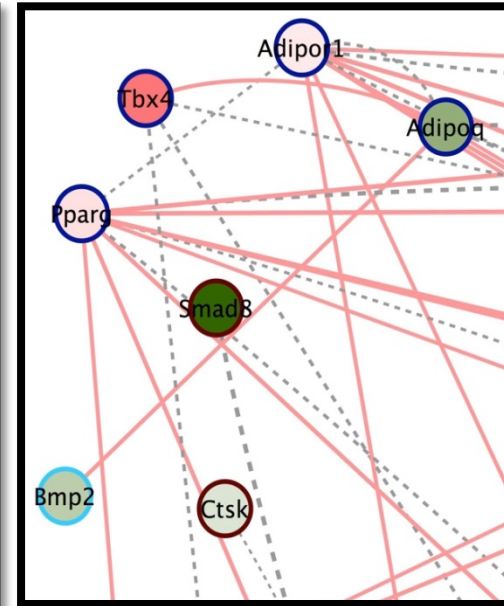
Fig S25 Smad8

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Smad8	Sost	0.91	0.01
wt_pre	Smad8	Tnn	0.91	0.01
wt_pre	Bmp3	Smad8	0.92	0.01
wt_pre	Cebpa	Smad8	-0.85	0.03
wt_pre	Dkk1	Smad8	0.96	0.003
wt_pre	Postn	Smad8	0.90	0.01
wt_pre	Pparg	Smad8	0.85	0.03
wt_24hrs	Smad8	Tbx4	0.88	0.048
wt_24hrs	Adipoq	Smad8	0.88	0.048
ko_pre	Bmp3	Smad8	0.99	4.94E-05
ko_24hrs	NA	NA	NA	NA

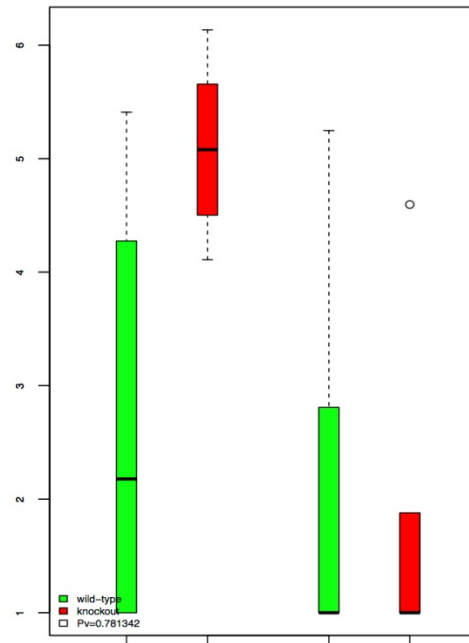
Wild-type



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Differential Expression

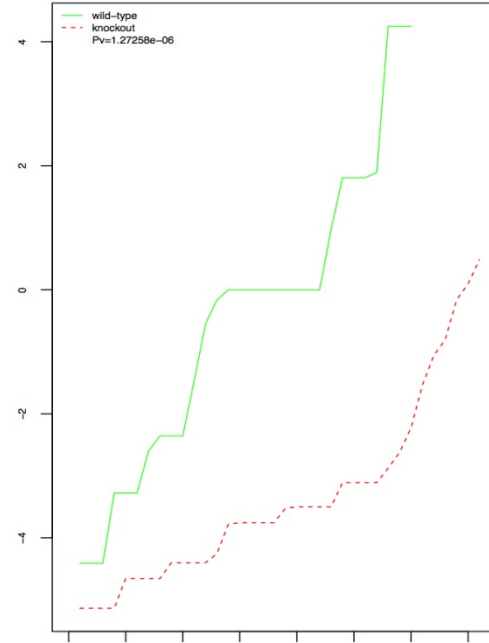
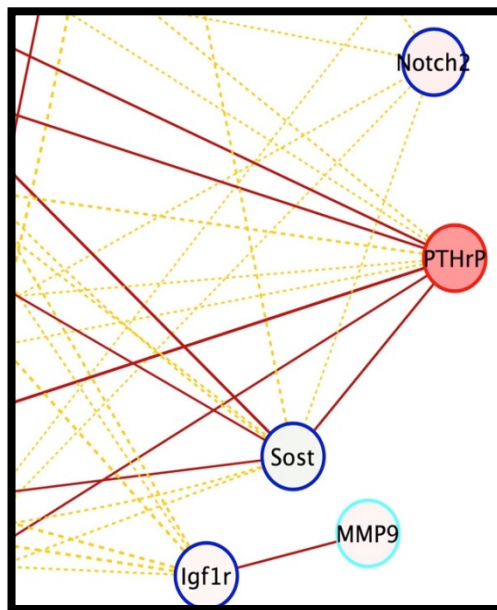


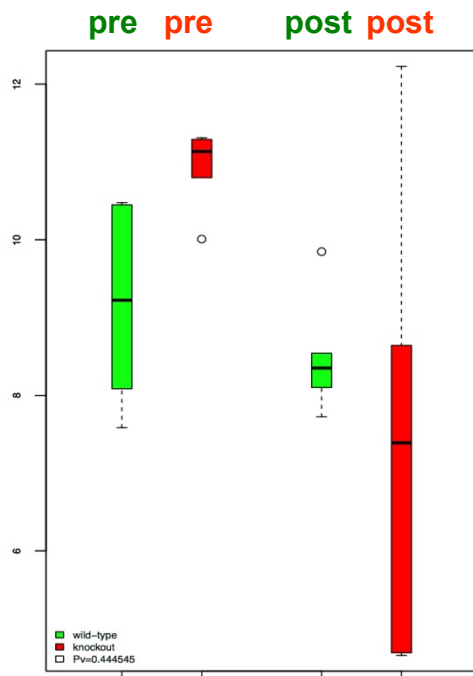
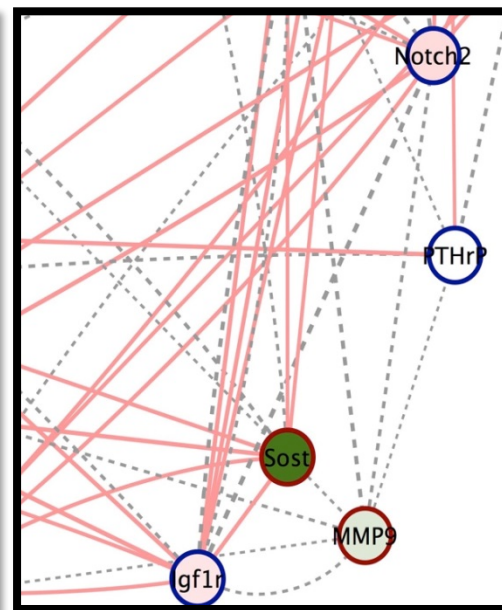
Fig S26 Sost

Networks	Gene.a	Gene.b	Corr	<i>P</i>
wt_pre	Sost	Tnn	0.94	0.005
wt_pre	Bmp3	Sost	0.90	0.01
wt_pre	Dkk1	Sost	0.91	0.01
wt_pre	Notch2	Sost	-0.83	0.04
wt_pre	Postn	Sost	0.89	0.02
wt_pre	Smad8	Sost	0.91	0.01
wt_24hrs	Bmp3	Sost	0.91	0.03
wt_24hrs	Ctsk	Sost	0.90	0.04
wt_24hrs	Dkk1	Sost	0.99	0.0008
wt_24hrs	PTHrP	Sost	-0.93	0.02
ko_pre	Sost	Tnn	0.84	0.04
ko_pre	Dkk1	Sost	0.90	0.02
ko_24hrs	Sost	Tnfrsf1a	0.91	0.01
ko_24hrs	Sost	Wnt7b	0.96	0.002
ko_24hrs	Cebpa	Sost	0.91	0.01
ko_24hrs	Igf1r	Sost	0.95	0.004
ko_24hrs	Myod	Sost	0.93	0.007
ko_24hrs	Postn	Sost	0.92	0.008

Wild-type



Knockout



Differential Expression

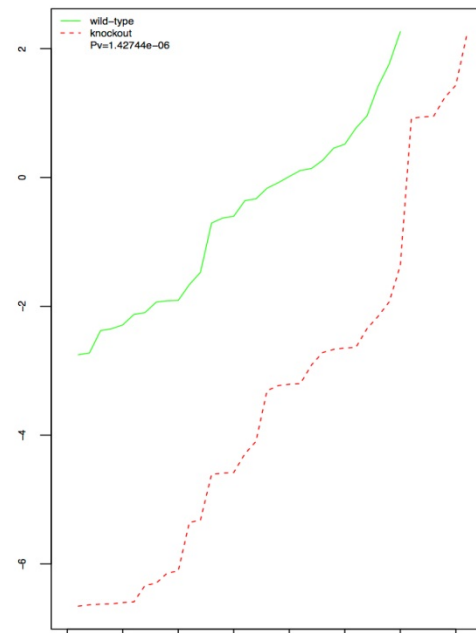
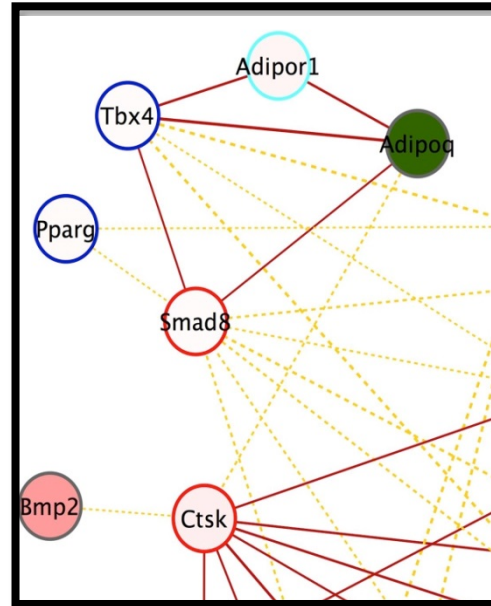


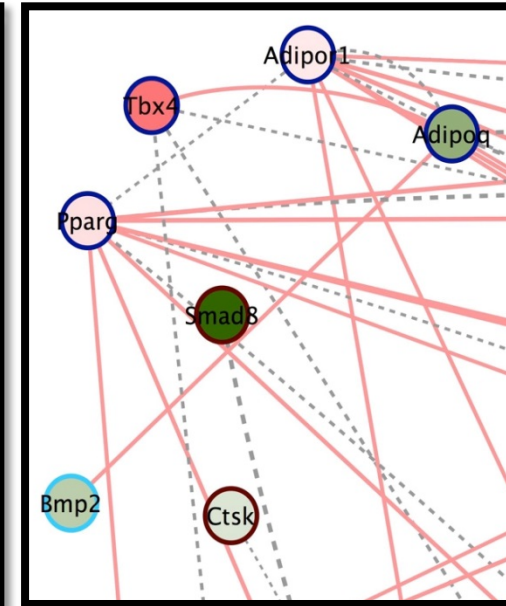
Fig S27 Tbx4

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Tbx4	Wsb1	-0.98	0.0008
wt_pre	Igf1r	Tbx4	-0.98	0.0008
wt_pre	PTHrP	Tbx4	0.86	0.03
wt_24hrs	Adipoq	Tbx4	1	2.80E-09
wt_24hrs	Adipor1	Tbx4	-0.93	0.0214
wt_24hrs	Smad8	Tbx4	0.88	0.0482
ko_pre	FGF2	Tbx4	0.87	0.0246
ko_pre	MCAM	Tbx4	0.82	0.0436
ko_pre	Postn	Tbx4	0.87	0.0233
ko_24hrs	Adipoq	Tbx4	-0.94	0.005

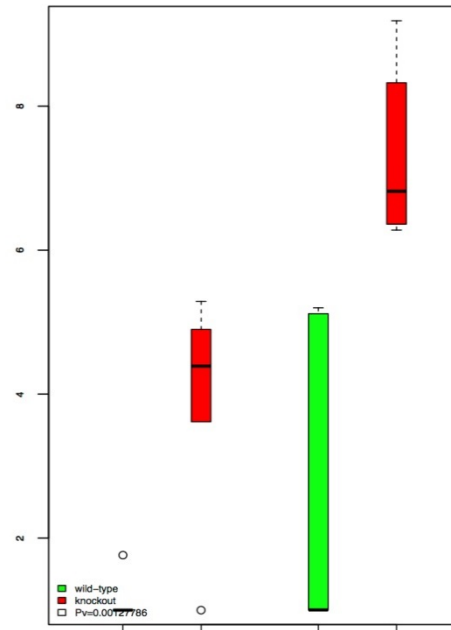
Wild-type



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Differential Expression

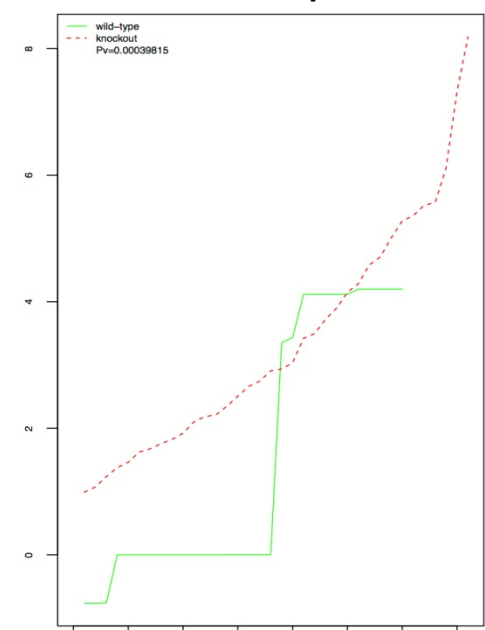
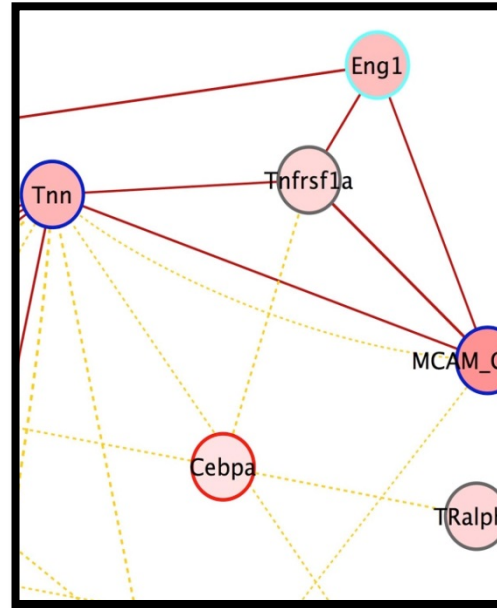


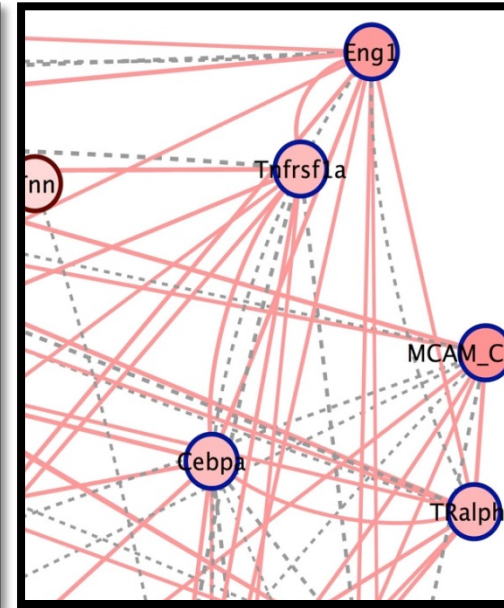
Fig S28 Tnfrsf1a

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Cebpa	Tnfrsf1a	0.90	0.01
wt_24hrs	Eng1	Tnfrsf1a	0.94	0.02
wt_24hrs	MCAM	Tnfrsf1a	0.996	0.0003
wt_24hrs	Tnfrsf1a	Tnn	-0.89	0.04
ko_pre	Igf1r	Tnfrsf1a	0.95	0.004
ko_pre	Notch2	Tnfrsf1a	0.93	0.008
ko_pre	Pparg	Tnfrsf1a	-0.96	0.002
ko_24hrs	Tnfrsf1a	Wnt7b	0.91	0.01
ko_24hrs	Bmp3	Tnfrsf1a	0.95	0.004
ko_24hrs	Cebpa	Tnfrsf1a	0.98	0.0006
ko_24hrs	Eng1	Tnfrsf1a	0.98	0.0009
ko_24hrs	Igf1r	Tnfrsf1a	0.96	0.002
ko_24hrs	Myod	Tnfrsf1a	0.96	0.003
ko_24hrs	Pparg	Tnfrsf1a	0.99	0.0001
ko_24hrs	Sost	Tnfrsf1a	0.91	0.01

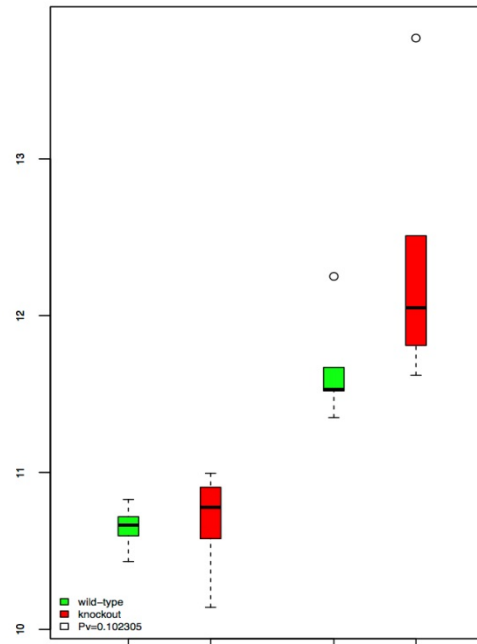
Wild-type



Knockout



pre pre post post



Differential Expression

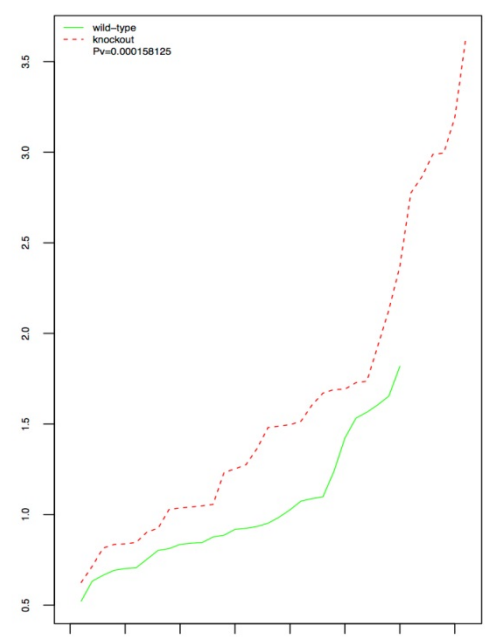
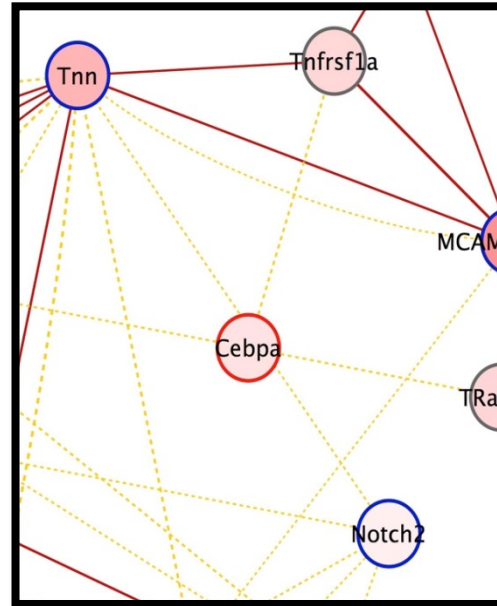


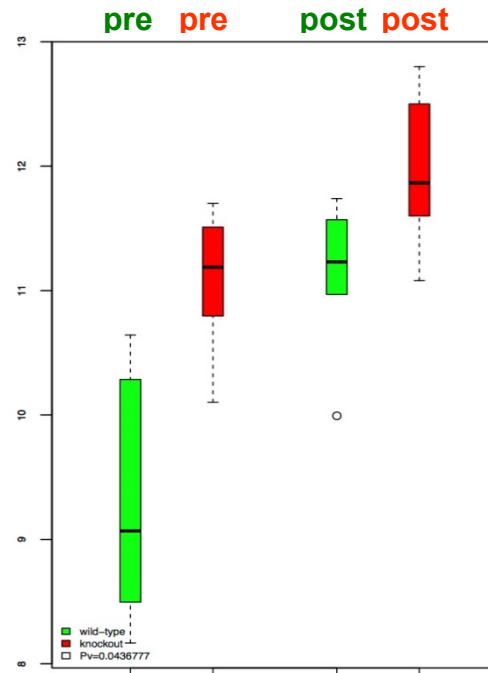
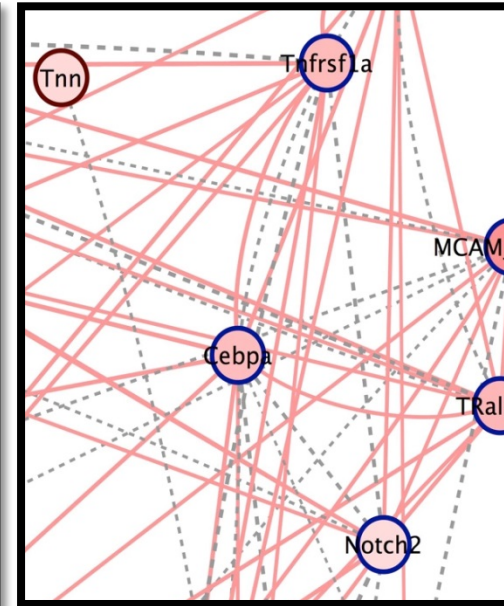
Fig S29 Tnn

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Bmp3	Tnn	0.87	0.02
wt_pre	Dkk1	Tnn	0.96	0.002
wt_pre	MCAM	Tnn	0.85	0.03
wt_pre	Notch2	Tnn	-0.83	0.04
wt_pre	Postn	Tnn	0.99	0.0001
wt_pre	Smad8	Tnn	0.91	0.01
wt_pre	Sost	Tnn	0.94	0.005
wt_24hrs	Ctsk	Tnn	0.91	0.03
wt_24hrs	FGF2	Tnn	-0.89	0.04
wt_24hrs	MCAM	Tnn	-0.91	0.03
wt_24hrs	Myod	Tnn	-0.89	0.046
wt_24hrs	Postn	Tnn	0.95	0.01
wt_24hrs	Tnfrsf1a	Tnn	-0.89	0.04
ko_pre	Sost	Tnn	0.84	0.04
ko_24hrs	NA	NA	NA	NA

Wild-type



Knockout



Differential Expression

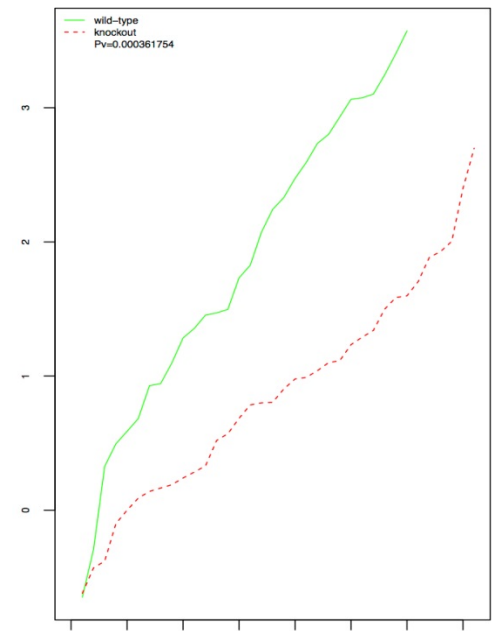
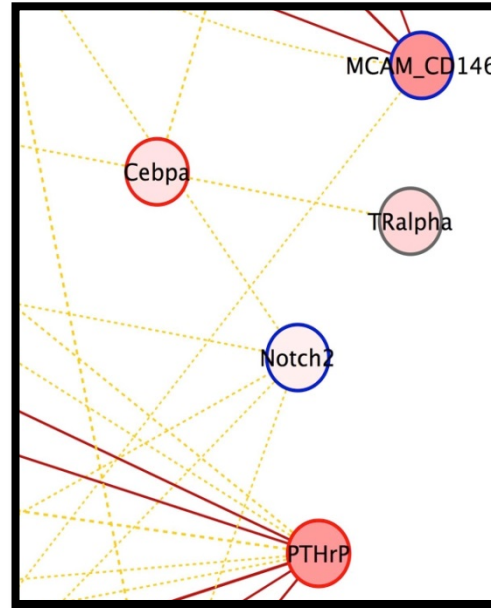


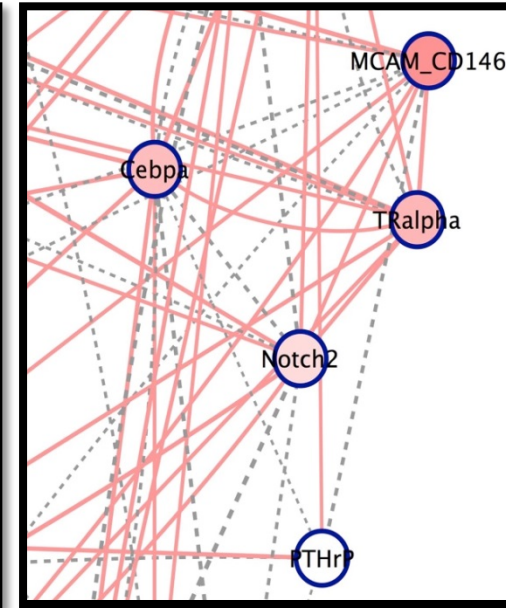
Fig S30 TRalpha

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Cebpa	TRalpha	0.88	0.02
wt_24hrs	NA	NA	NA	NA
ko_pre	Adipoq	TRalpha	-0.94	0.005
ko_pre	Adipor1	TRalpha	0.84	0.04
ko_pre	Eng1	TRalpha	0.85	0.03
ko_24hrs	TRalpha	Wsb1	0.90	0.01
ko_24hrs	Adipor1	TRalpha	0.997	1.2E-05
ko_24hrs	Bmp3	TRalpha	0.96	0.002
ko_24hrs	Cebpa	TRalpha	0.91	0.01
ko_24hrs	Eng1	TRalpha	0.93	0.007
ko_24hrs	MCAM	TRalpha	0.99	0.0003
ko_24hrs	Notch2	TRalpha	0.95	0.003
ko_24hrs	Postn	TRalpha	0.93	0.008
ko_24hrs	Pparg	TRalpha	0.91	0.01

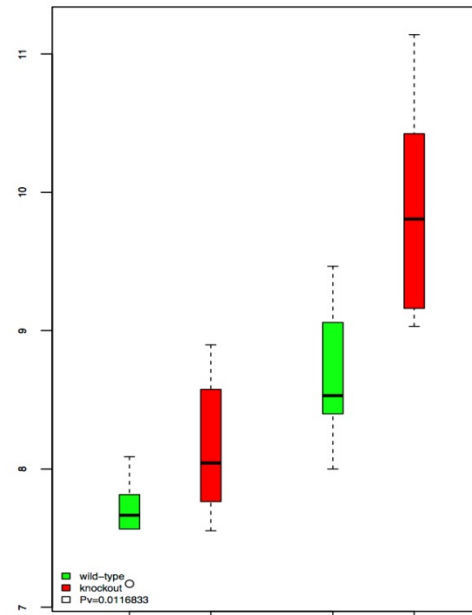
Wild-type



Knockout



pre pre post post



Differential Expression

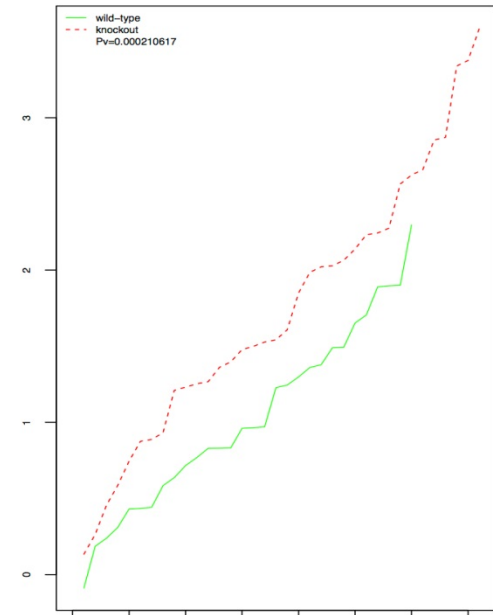
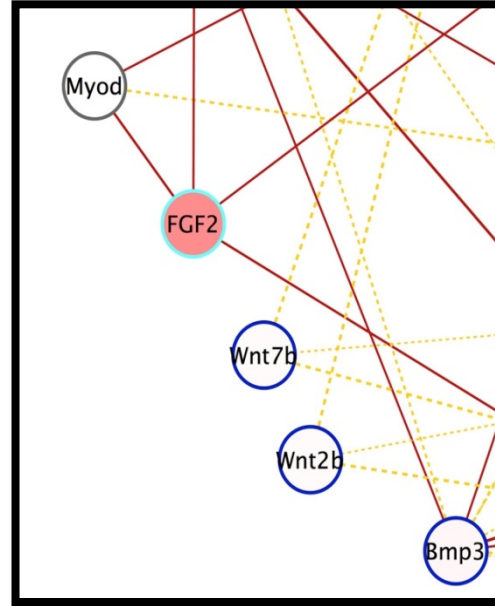


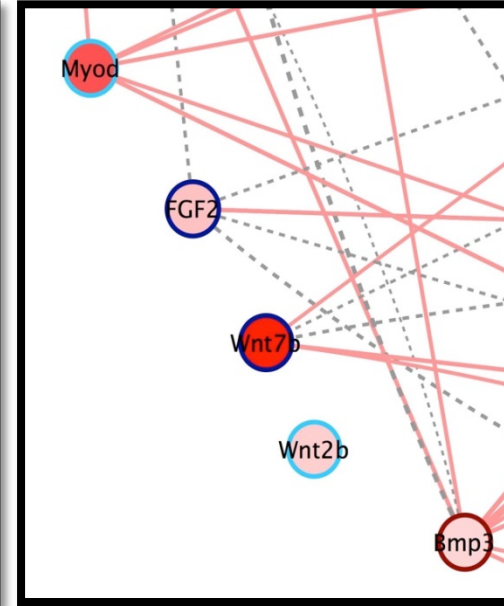
Fig S31 Wnt2b

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Wnt2b	Wsb1	-0.98	0.0008
wt_pre	Igf1r	Wnt2b	-0.98	0.0008
wt_pre	PTHrP	Wnt2b	0.86	0.03
wt_24hrs	NA	NA	NA	NA
ko_pre	NA	NA	NA	NA
ko_24hrs	NA	NA	NA	NA

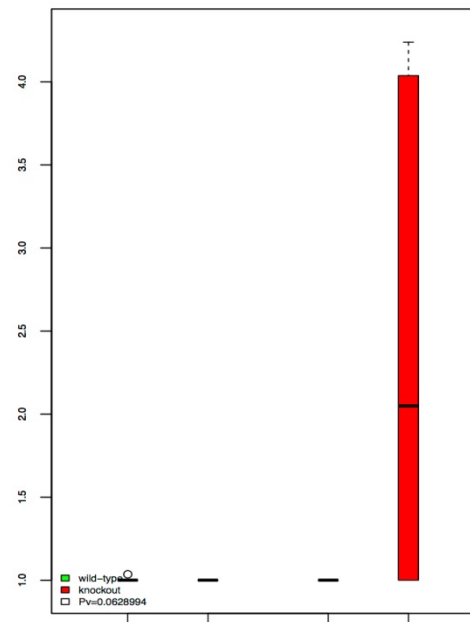
Wild-type



Knockout



pre pre post post



Differential Expression

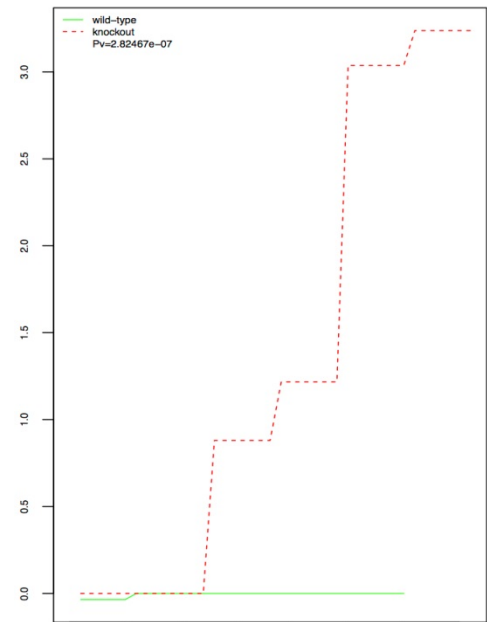
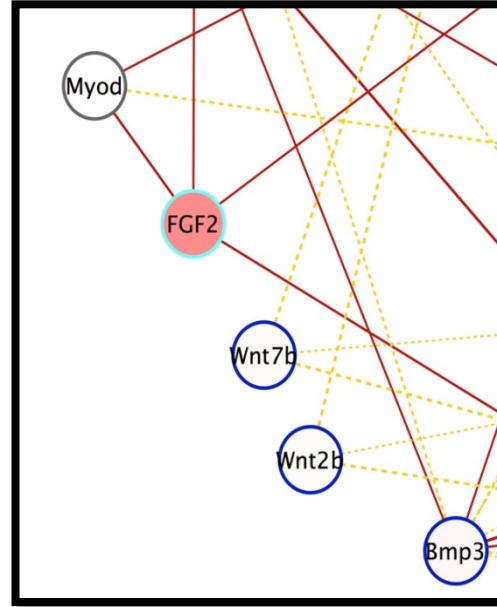


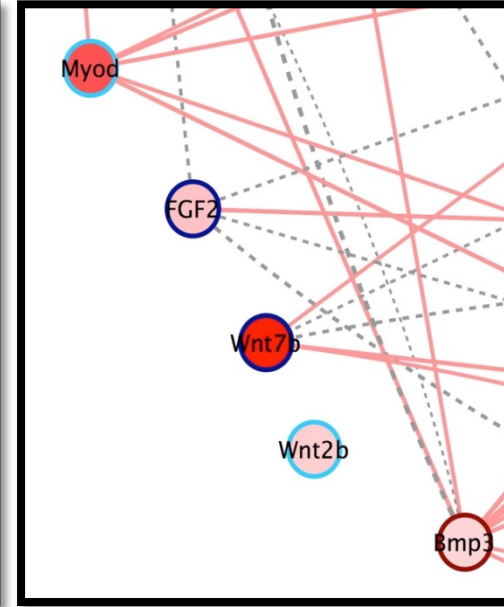
Fig S32 Wnt7b

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Wnt7b	Wsb1	-0.98	0.0008
wt_pre	Igf1r	Wnt7b	-0.98	0.0008
wt_pre	PTHrP	Wnt7b	0.86	0.03
wt_24hrs	NA	NA	NA	NA
ko_pre	MCAM	Wnt7b	0.82	0.047
ko_pre	PTHrP	Wnt7b	0.87	0.03
ko_24hrs	Igf1r	Wnt7b	0.92	0.01
ko_24hrs	Sost	Wnt7b	0.96	0.002
ko_24hrs	Tnfrsf1a	Wnt7b	0.91	0.01

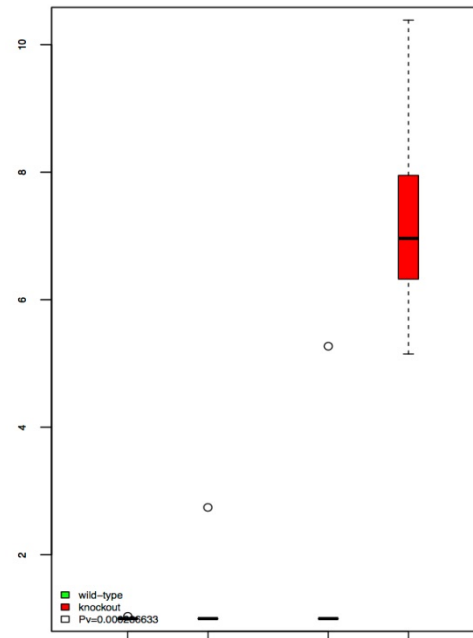
Wild-type



Knockout



pre pre post post



Differential Expression

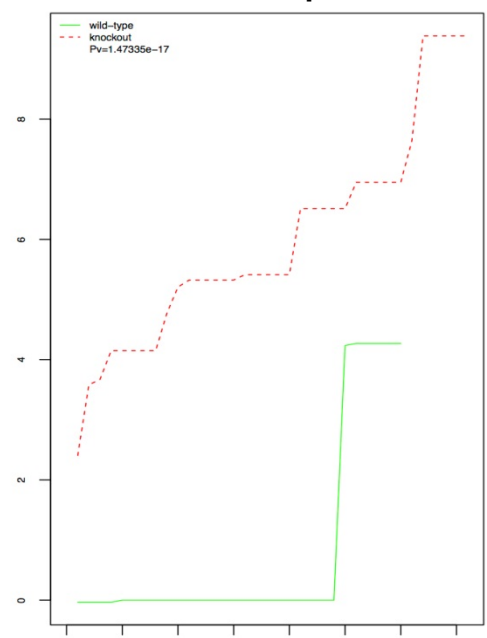
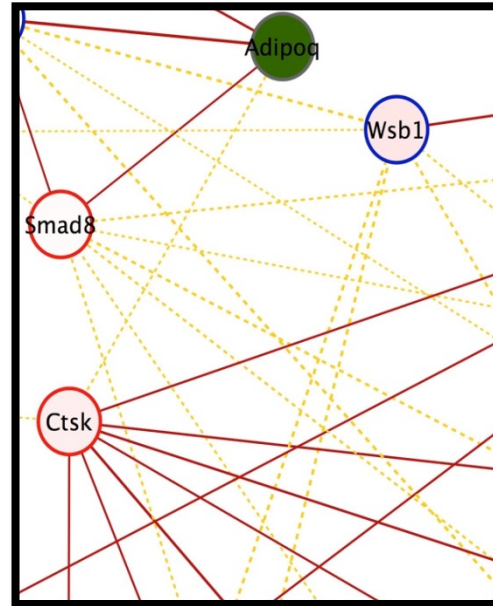


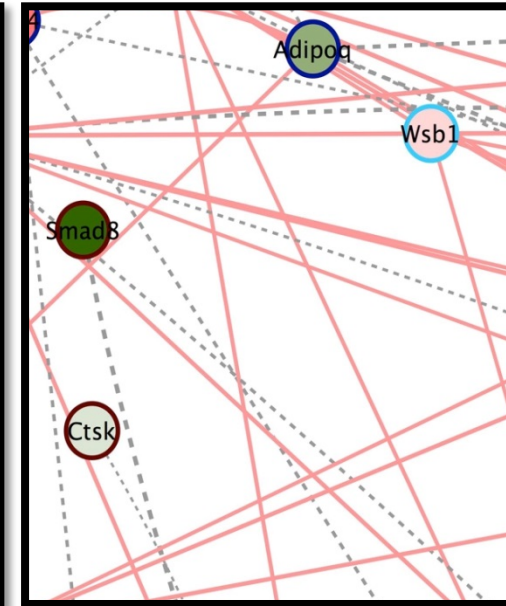
Fig S33 Wsb1

Networks	Gene.a	Gene.b	Corr	P
wt_pre	Wnt7b	Wsb1	-0.98	0.0008
wt_pre	Wnt2b	Wsb1	-0.98	0.0008
wt_pre	Igf1r	Wsb1	0.95	0.004
wt_pre	Pparg	Wsb1	-0.82	0.048
wt_pre	PTHrP	Wsb1	-0.87	0.02
wt_pre	Tbx4	Wsb1	-0.98	0.0008
wt_24hrs	TRalpha	Wsb1	0.90	0.01
ko_pre	NA	NA	NA	NA
ko_24hrs	Adipor1	Wsb1	0.91	0.01
ko_24hrs	MCAM	Wsb1	0.92	0.009
ko_24hrs	Postn	Wsb1	0.91	0.01
ko_24hrs	TRalpha	Wsb1	0.90	0.01

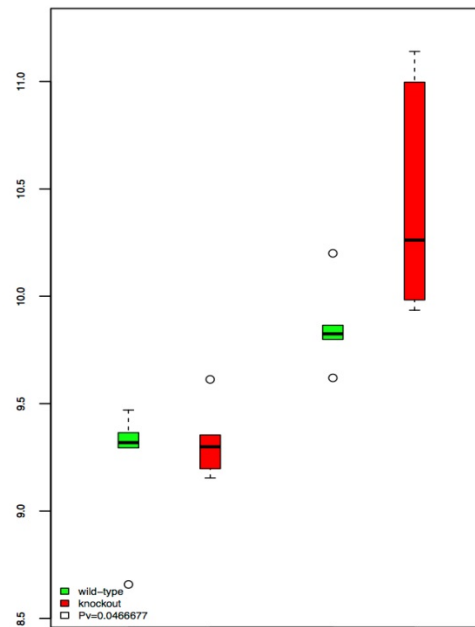
Wild-type



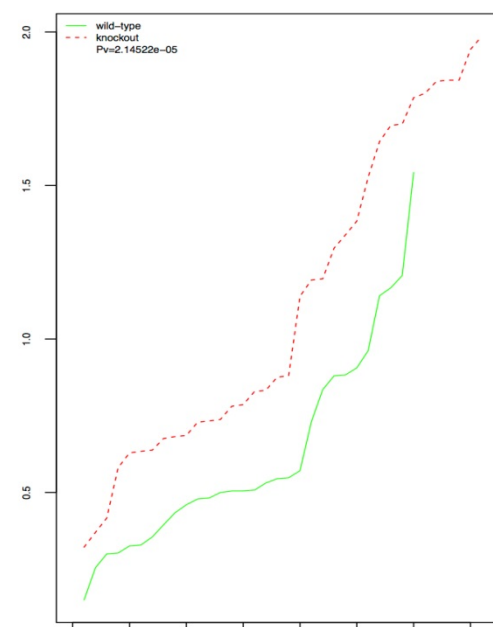
Knockout



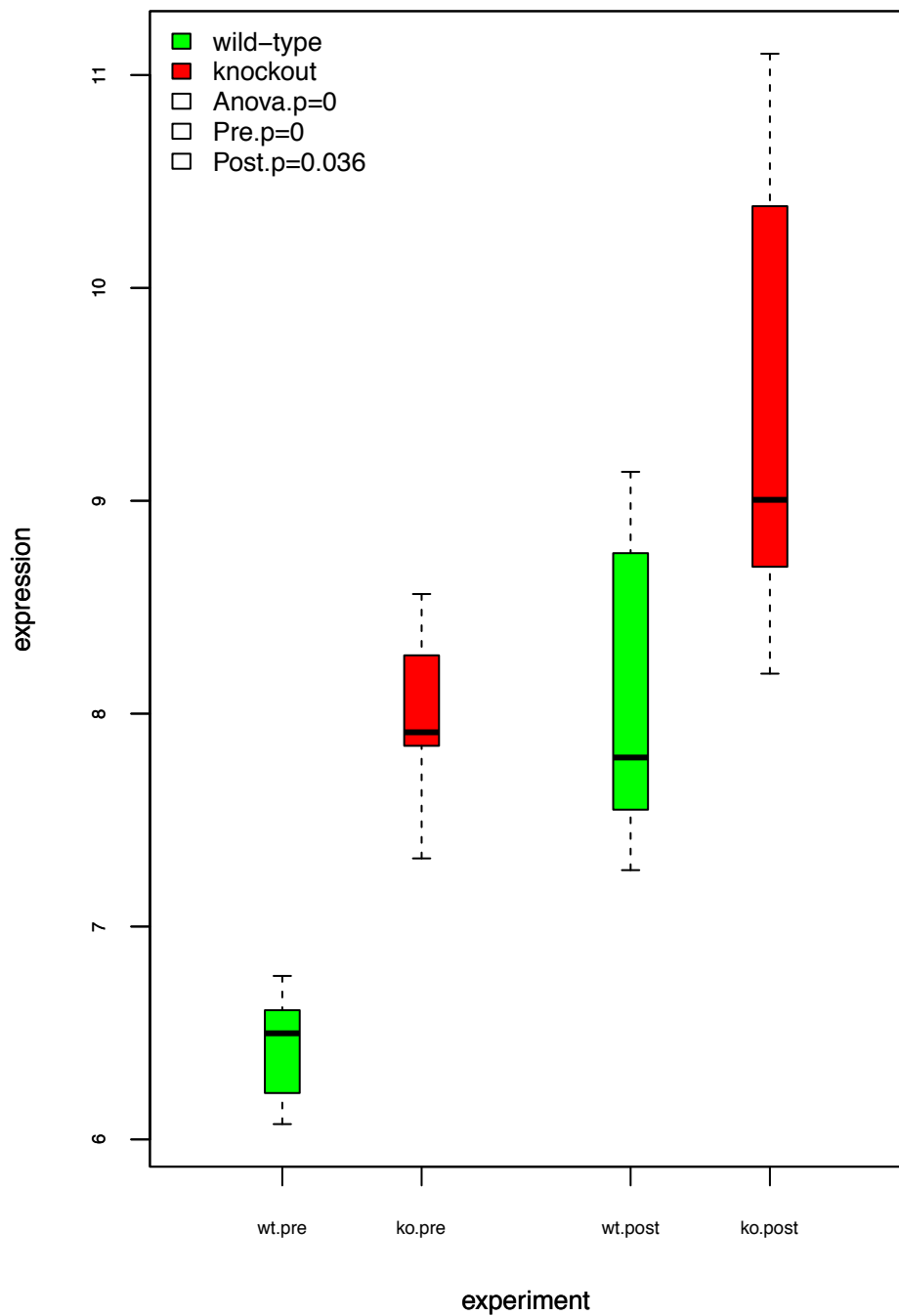
pre pre post post



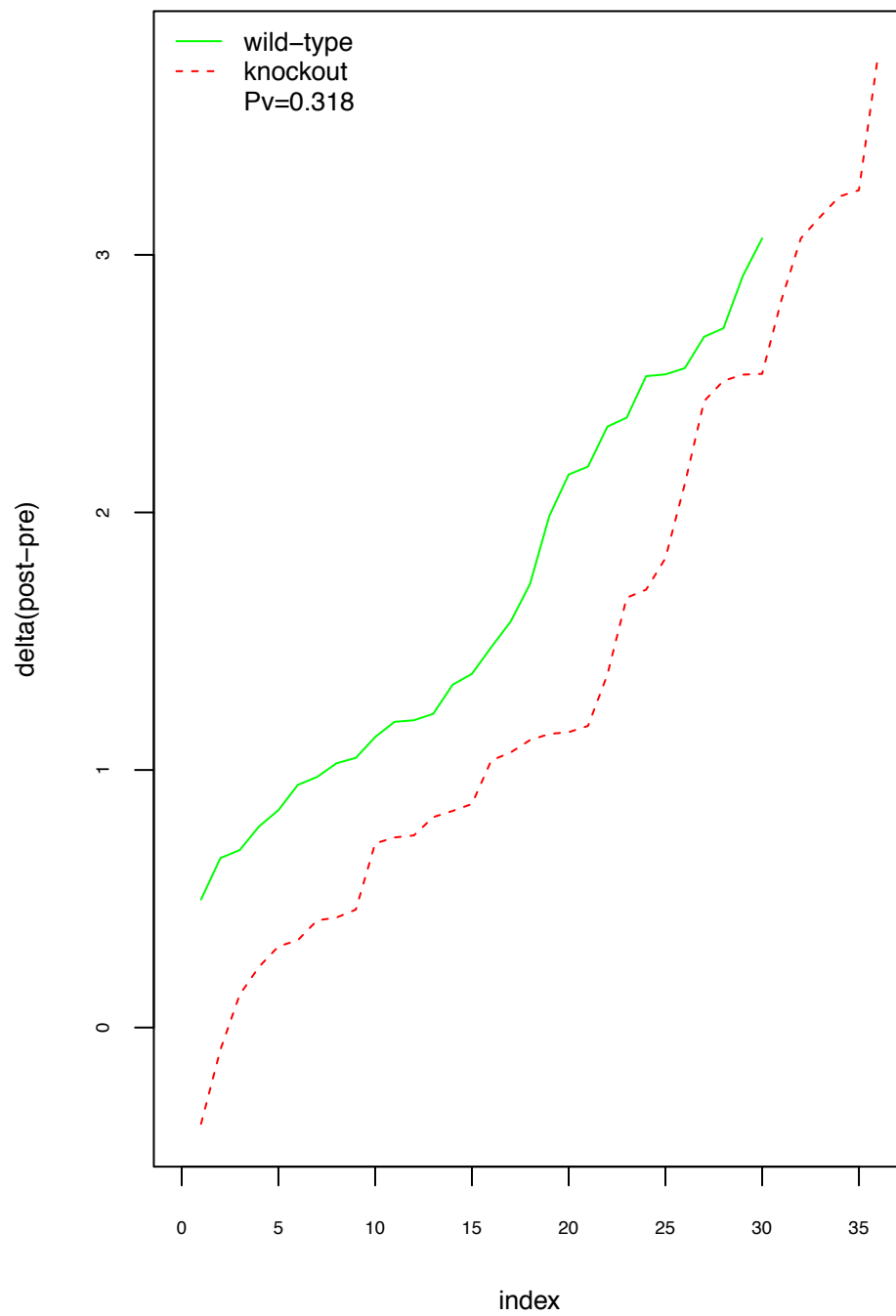
Differential Expression



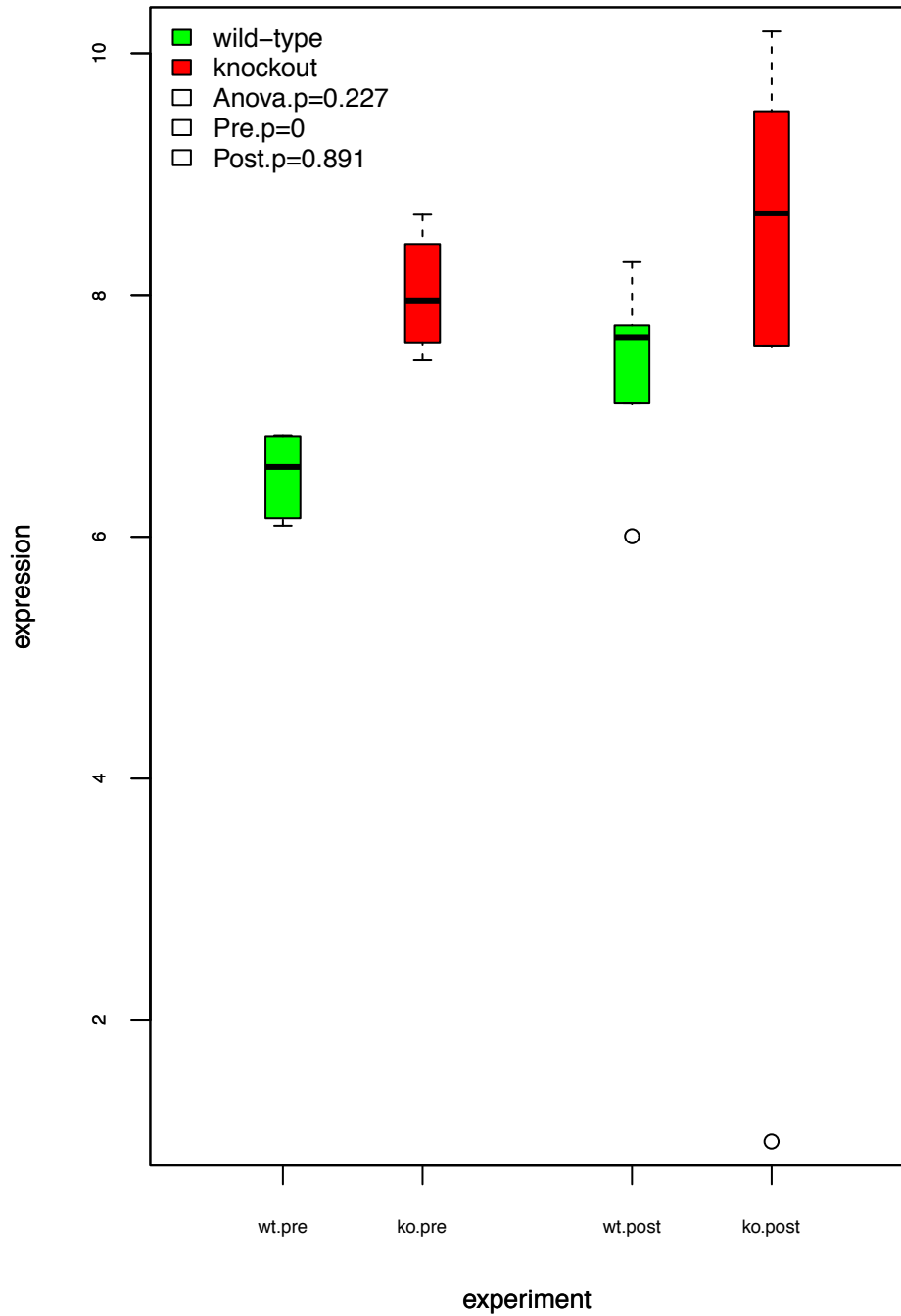
Actr2b(Acvr2b)



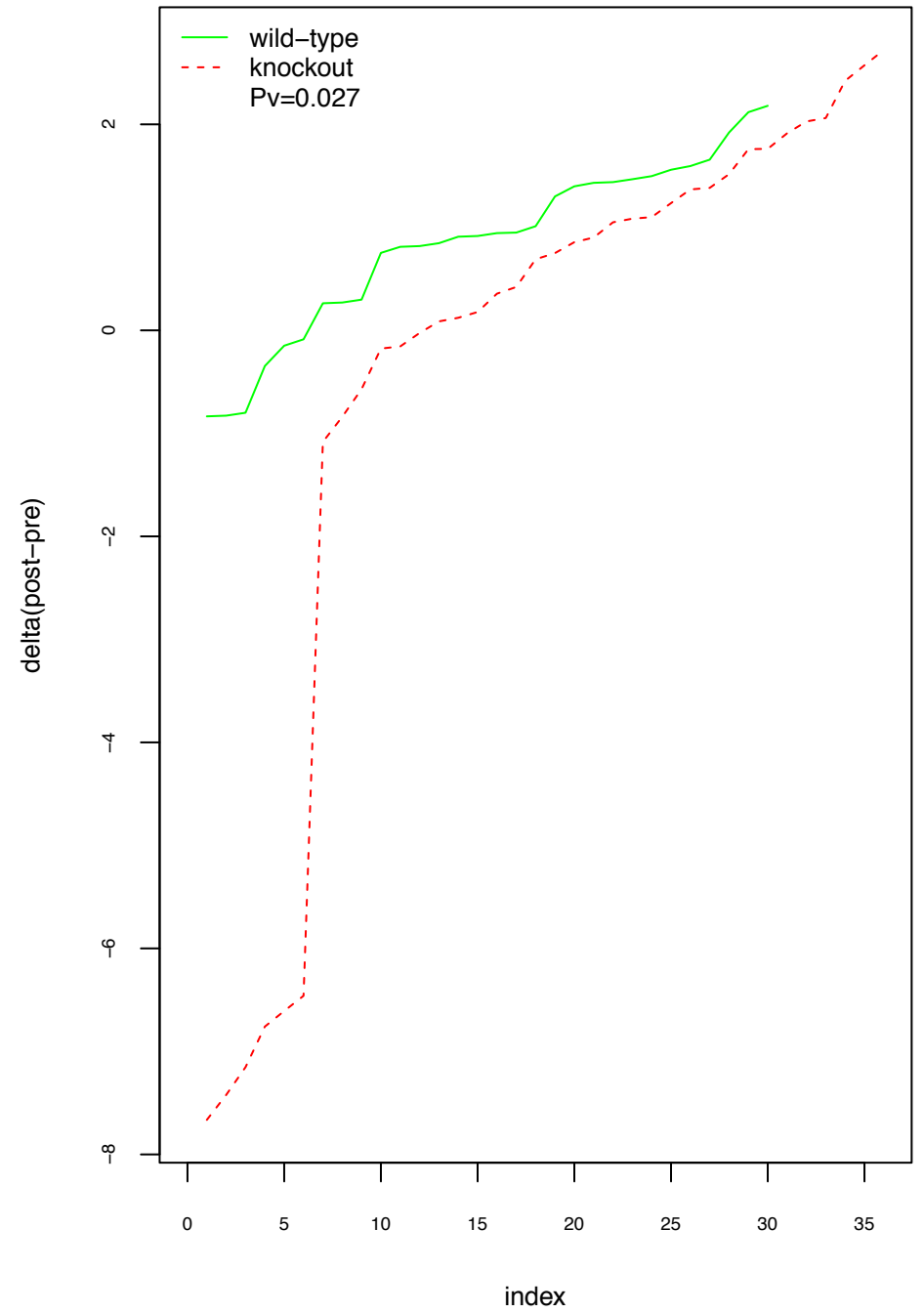
Actr2b(Acvr2b)



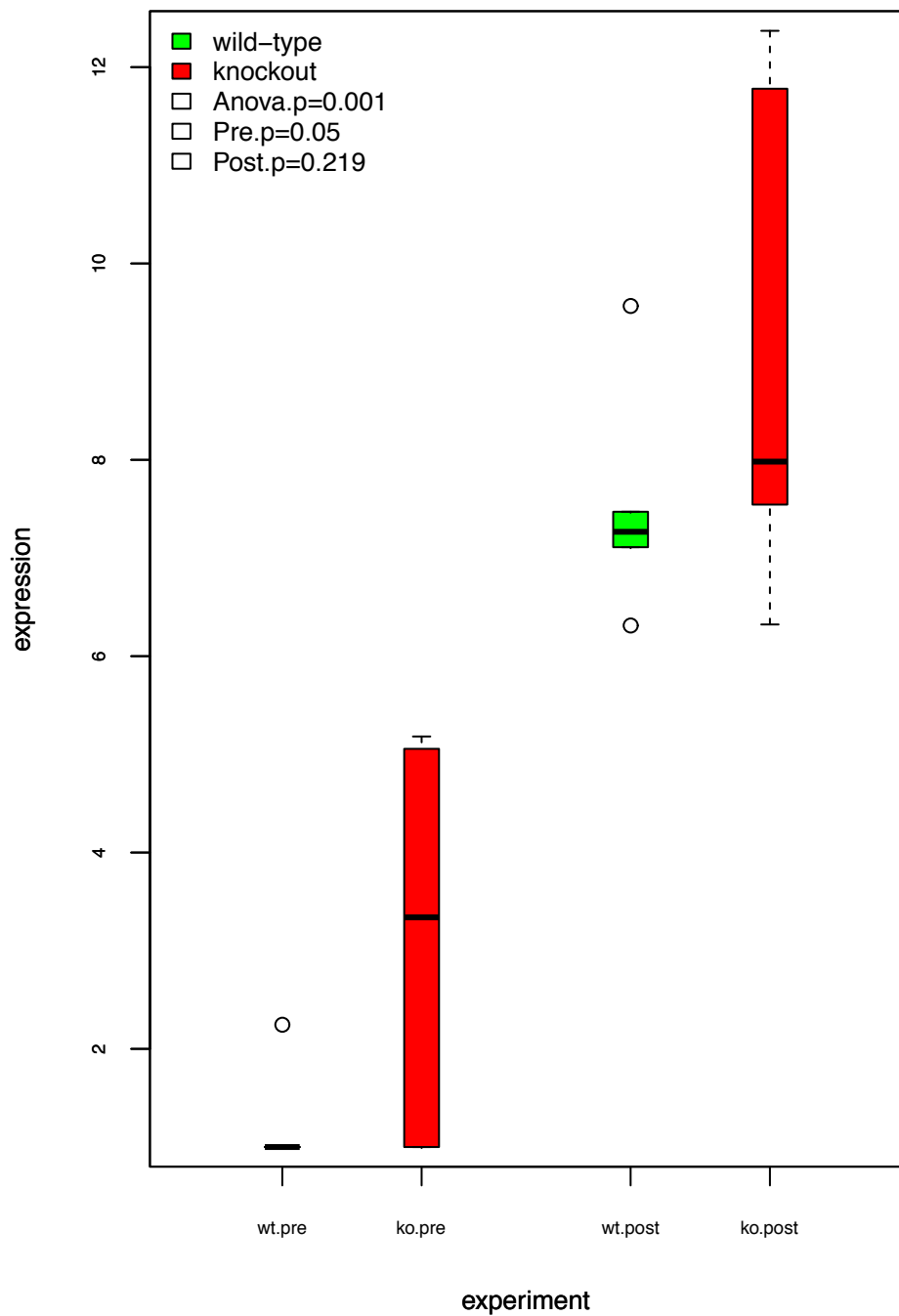
Actr2a(Acvr2a)



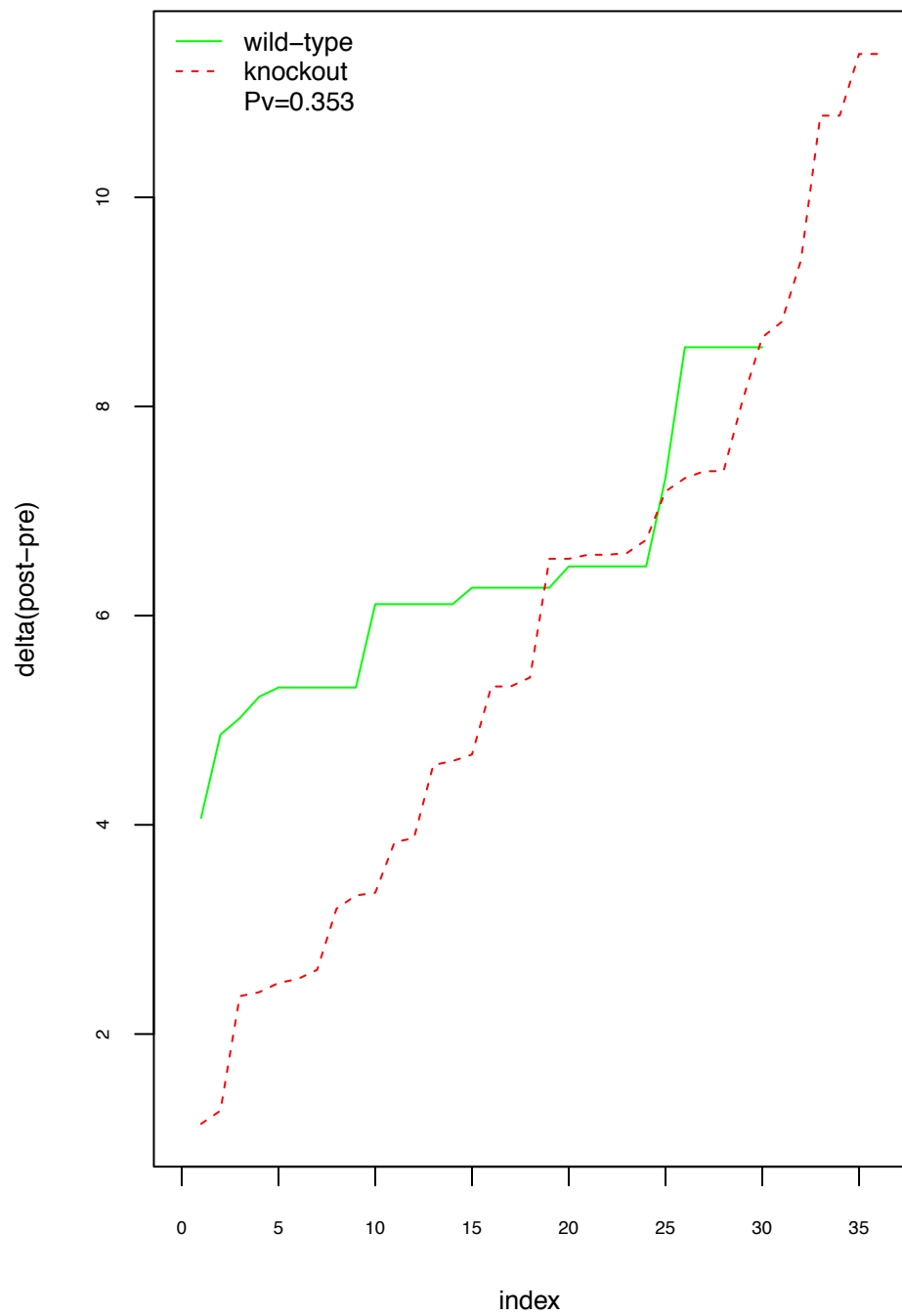
Actr2a(Acvr2a)



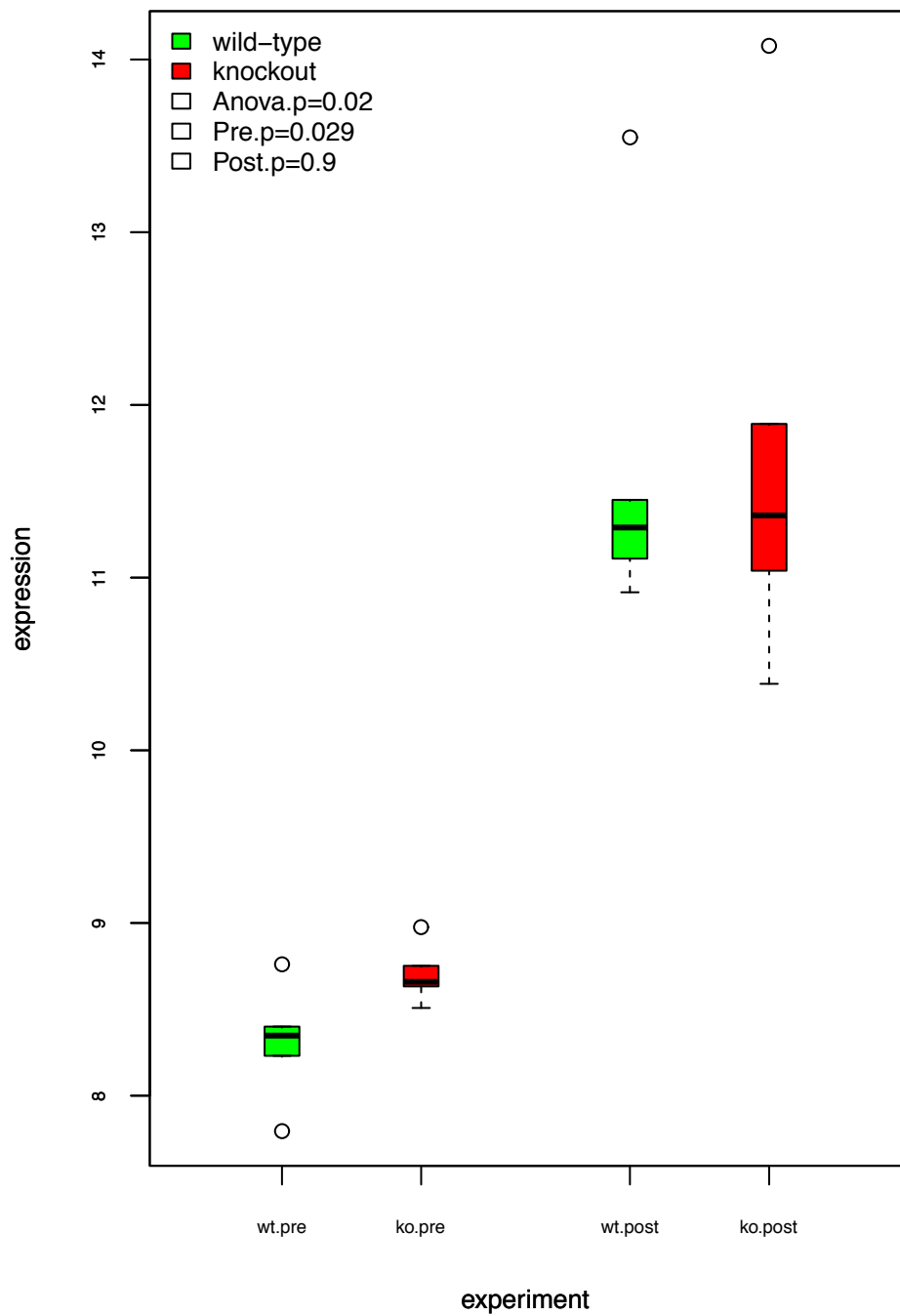
ActivinB



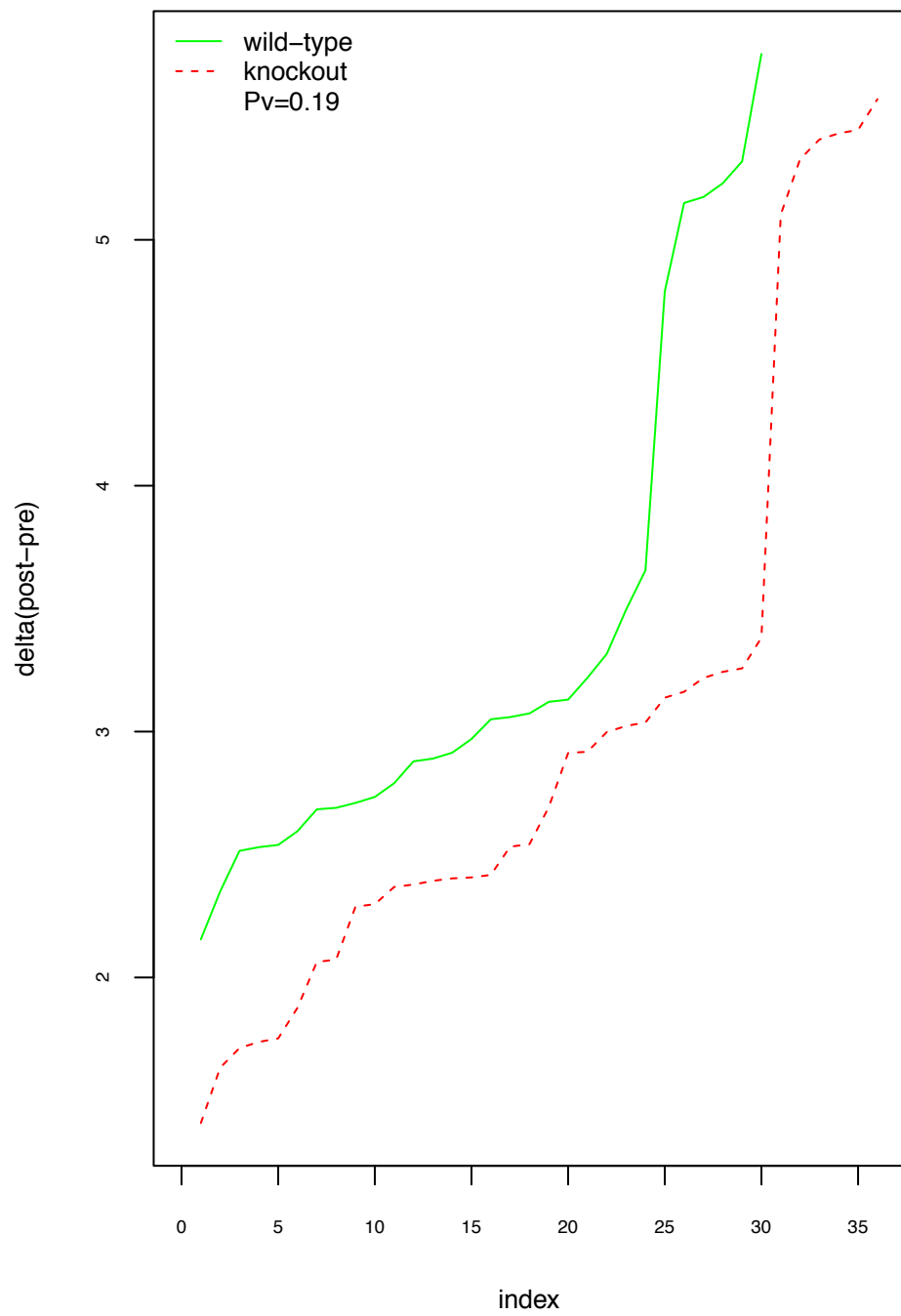
ActivinB



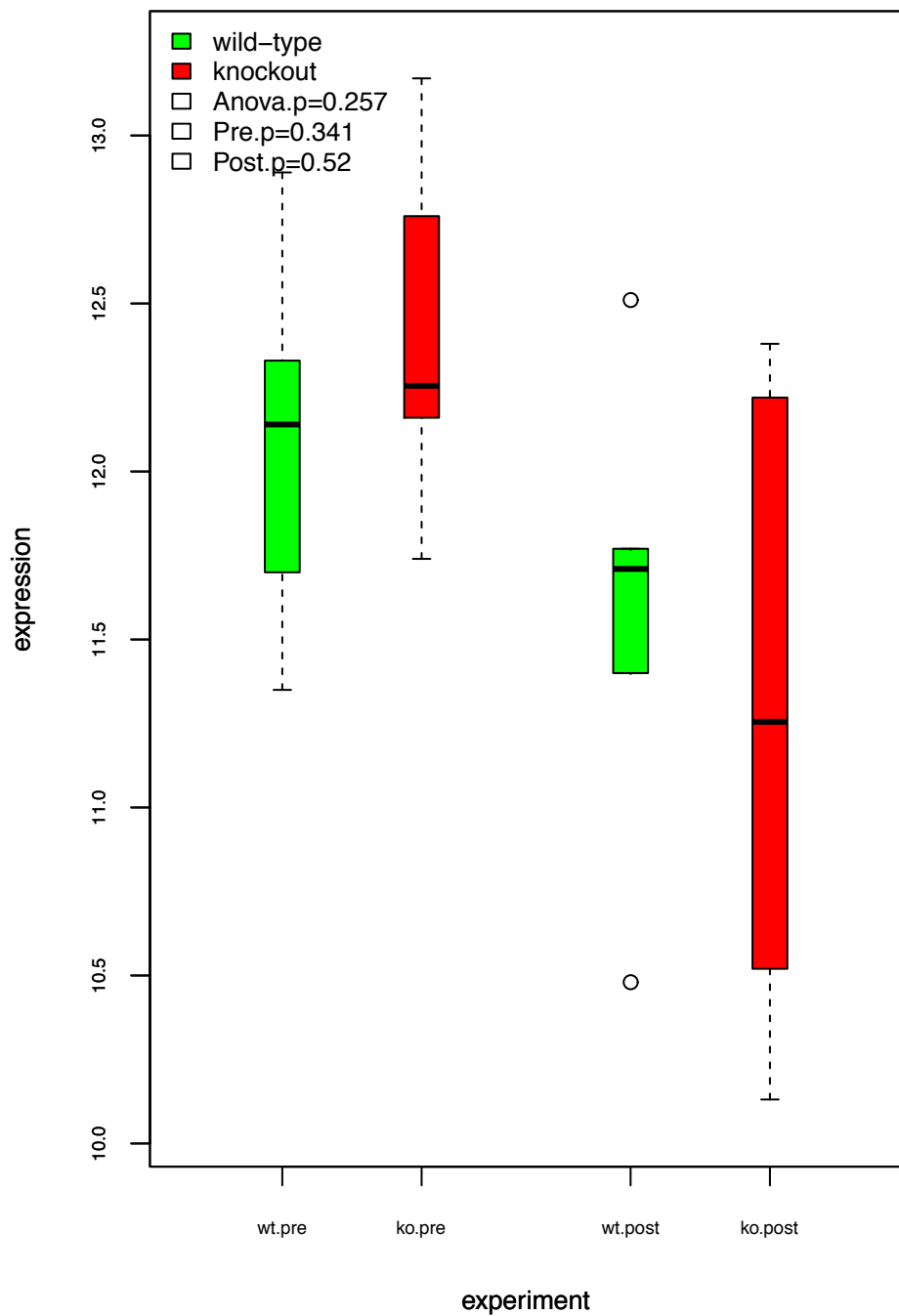
ActivinA



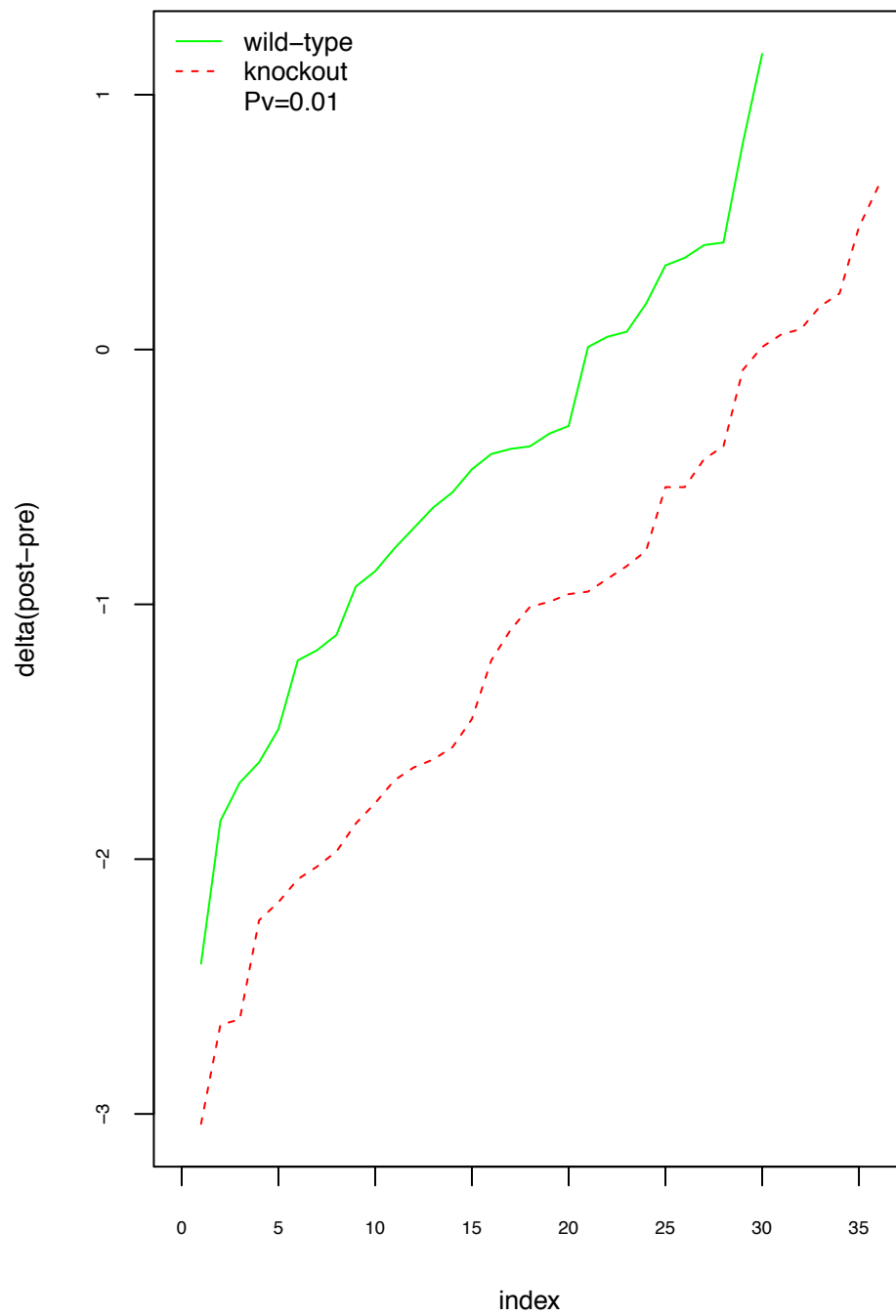
ActivinA



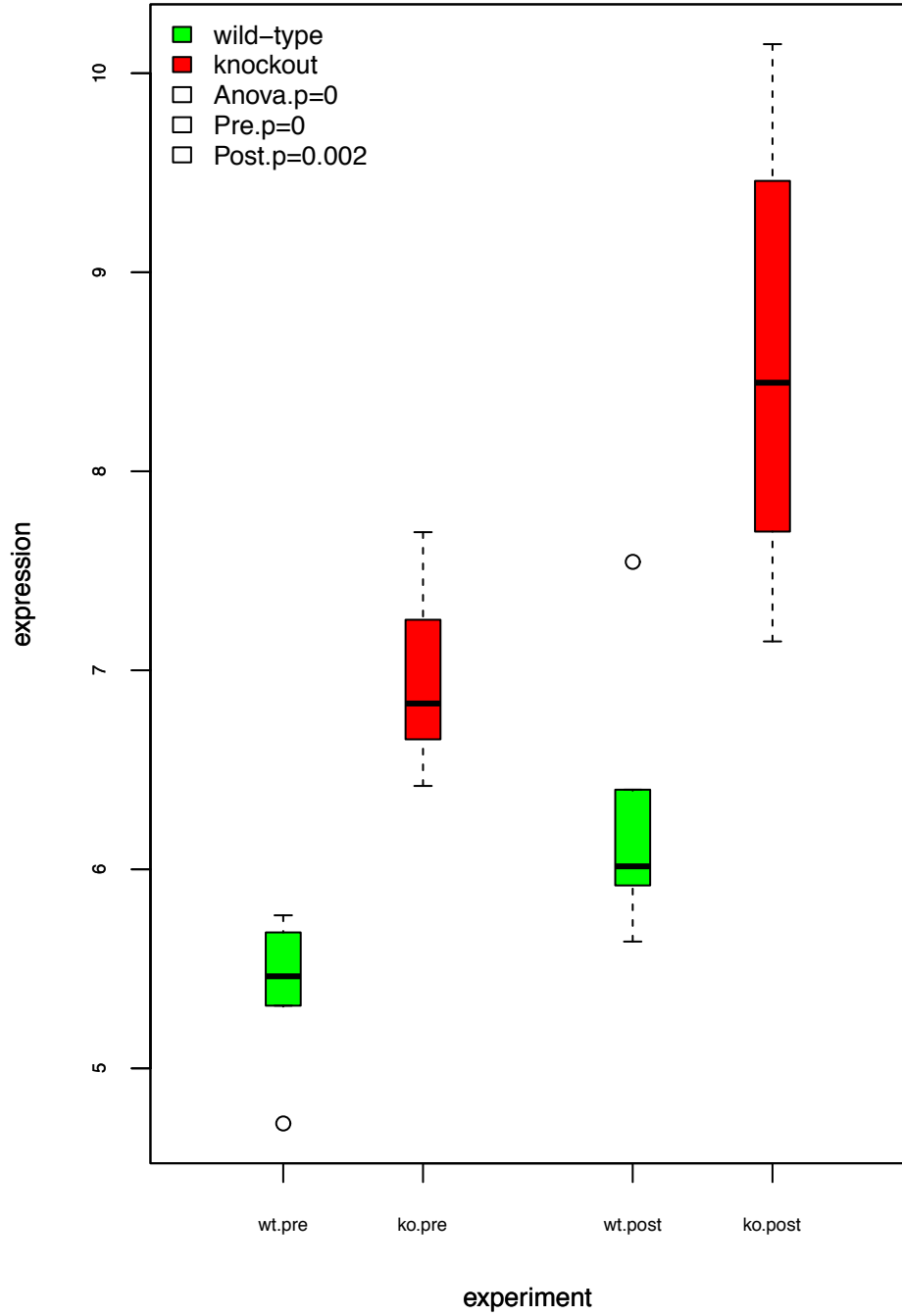
Acp5(TRAP)



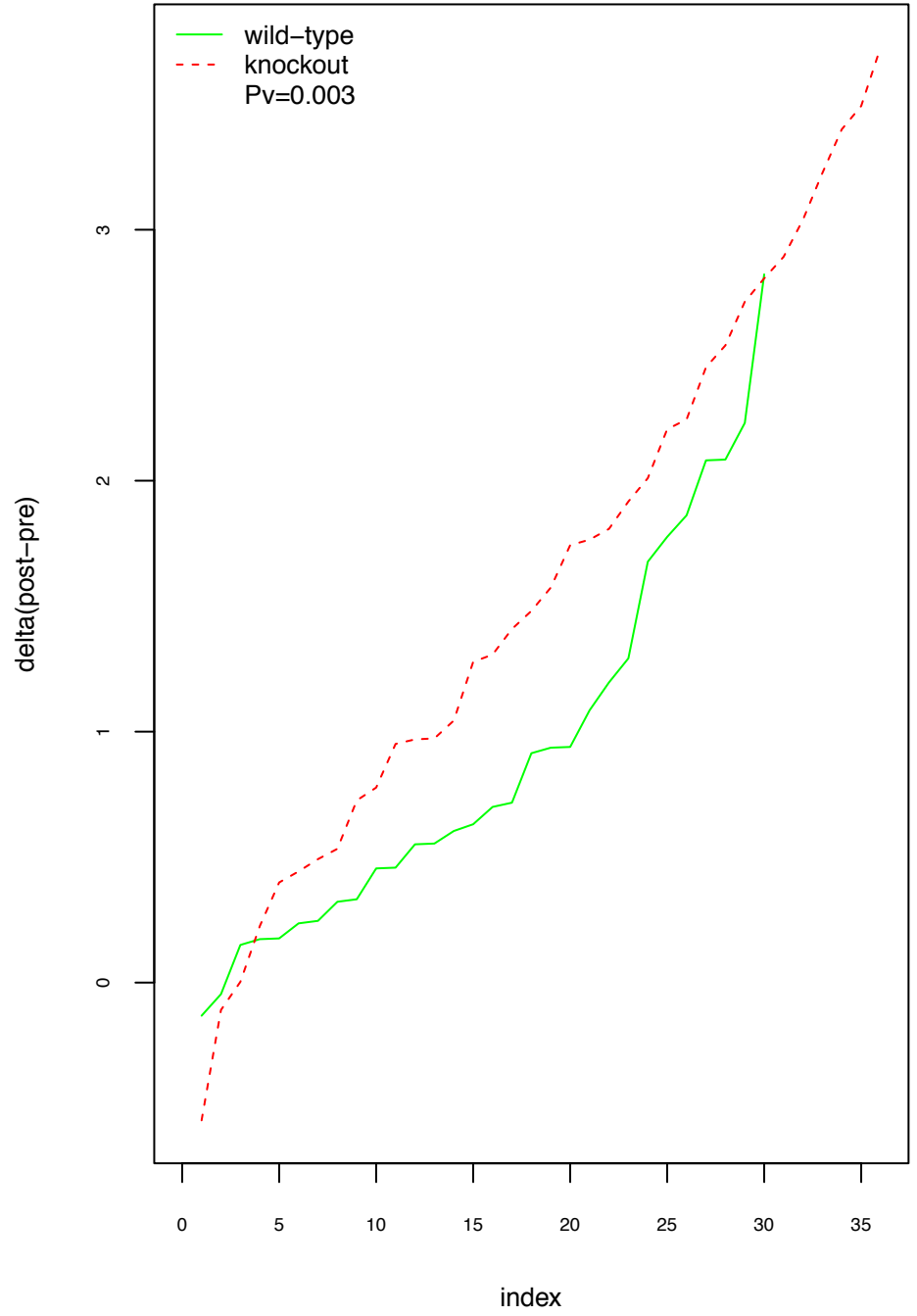
Acp5(TRAP)



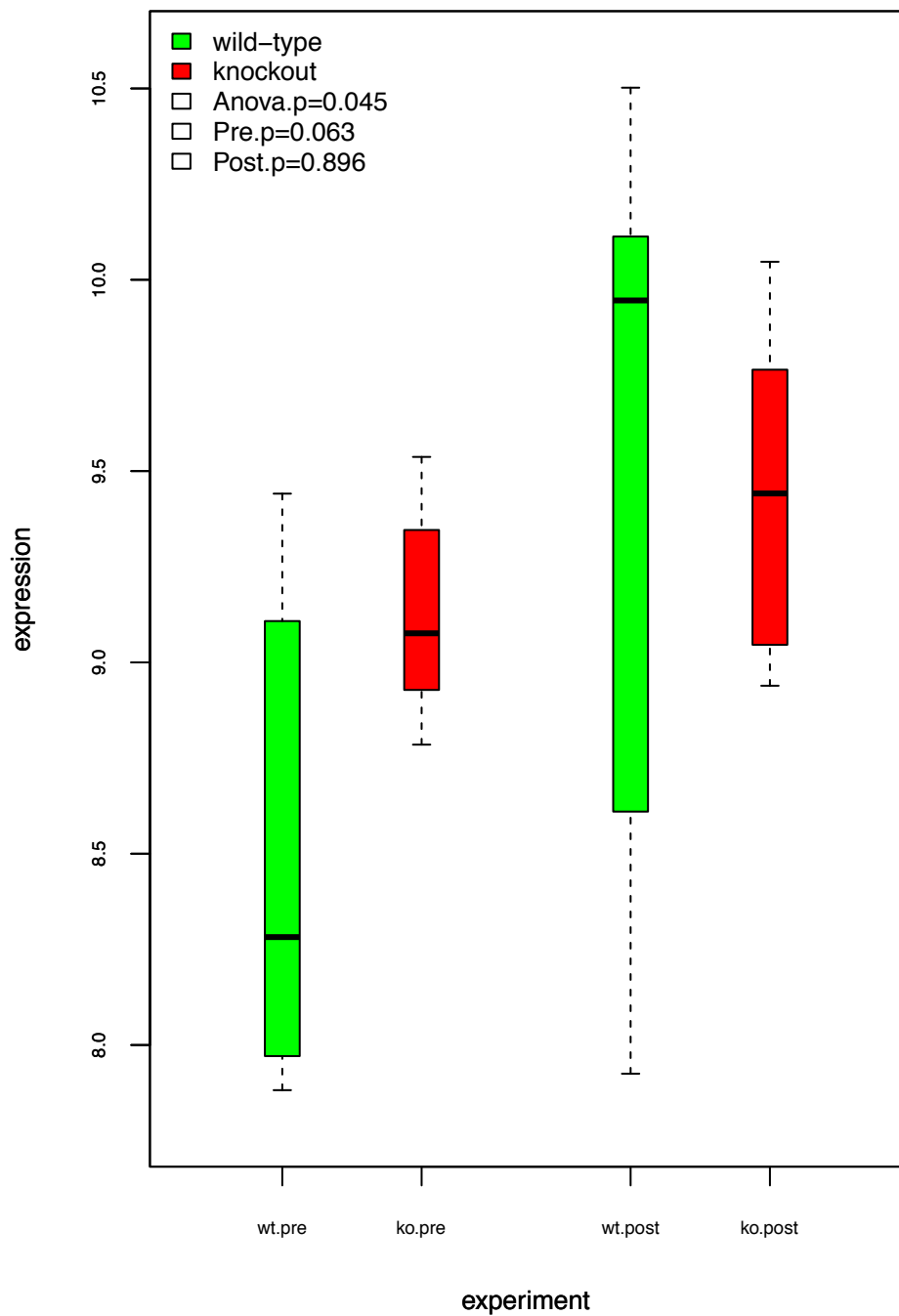
Axin2



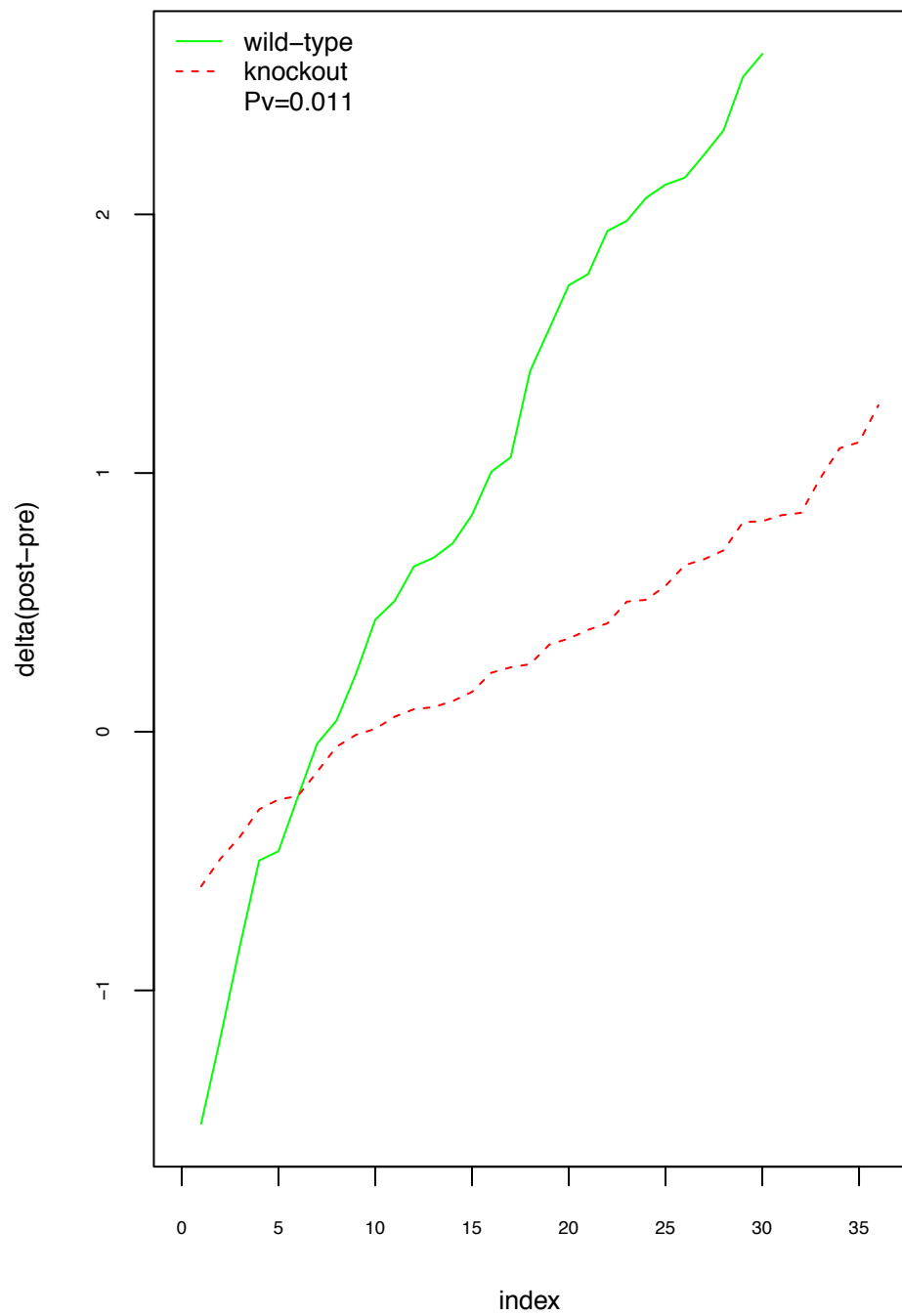
Axin2



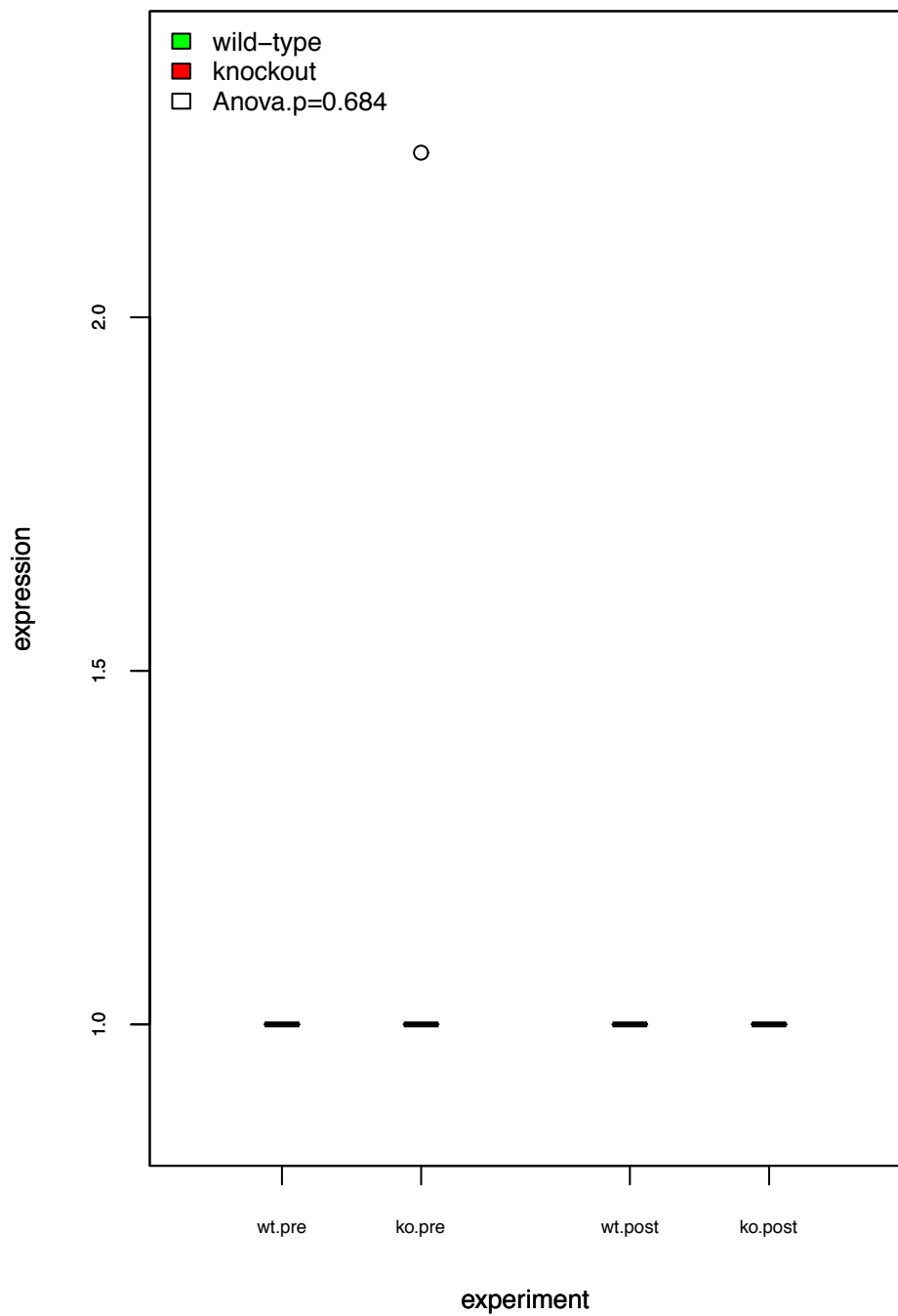
AlkPhos(Akp2)



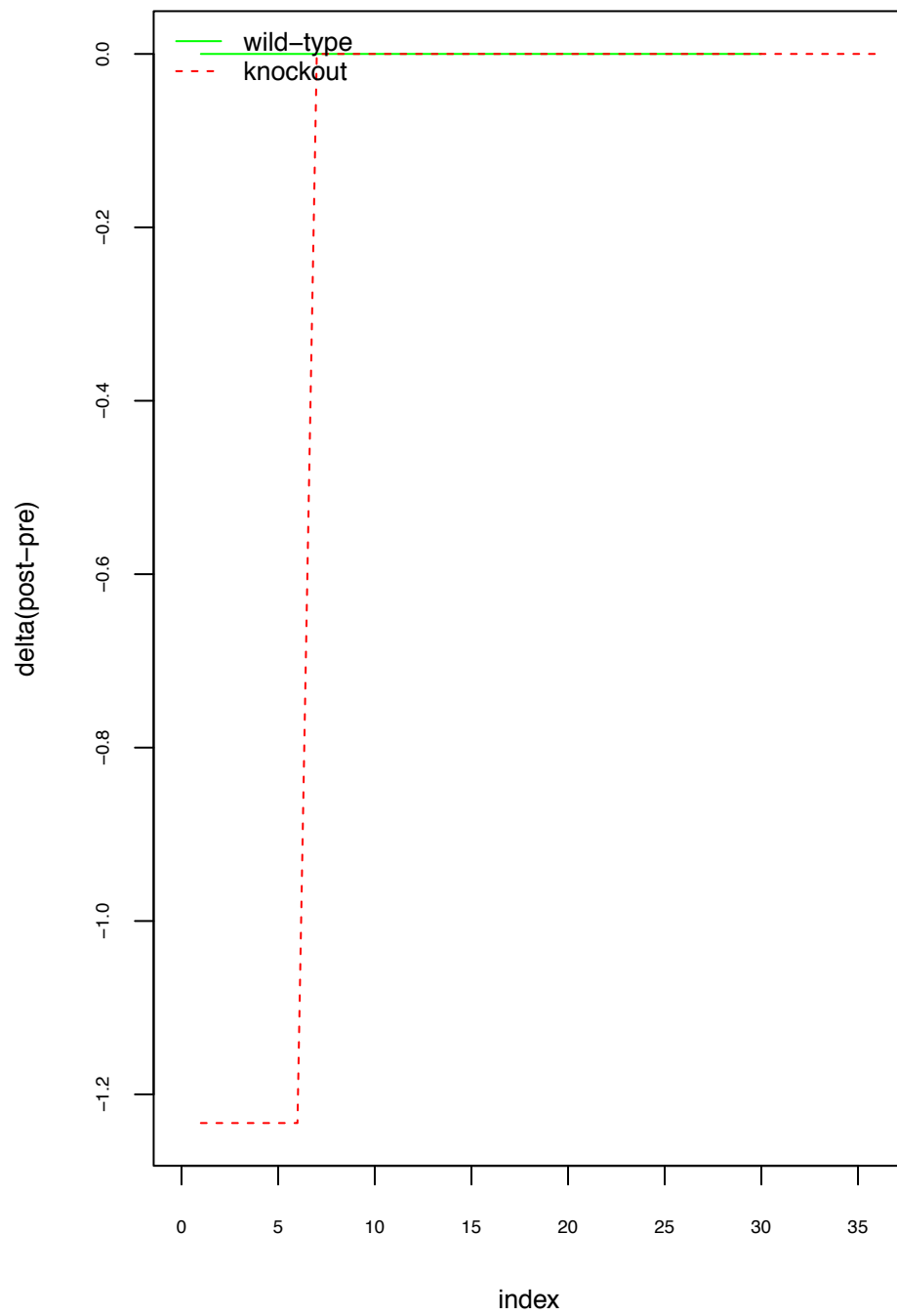
AlkPhos(Akp2)



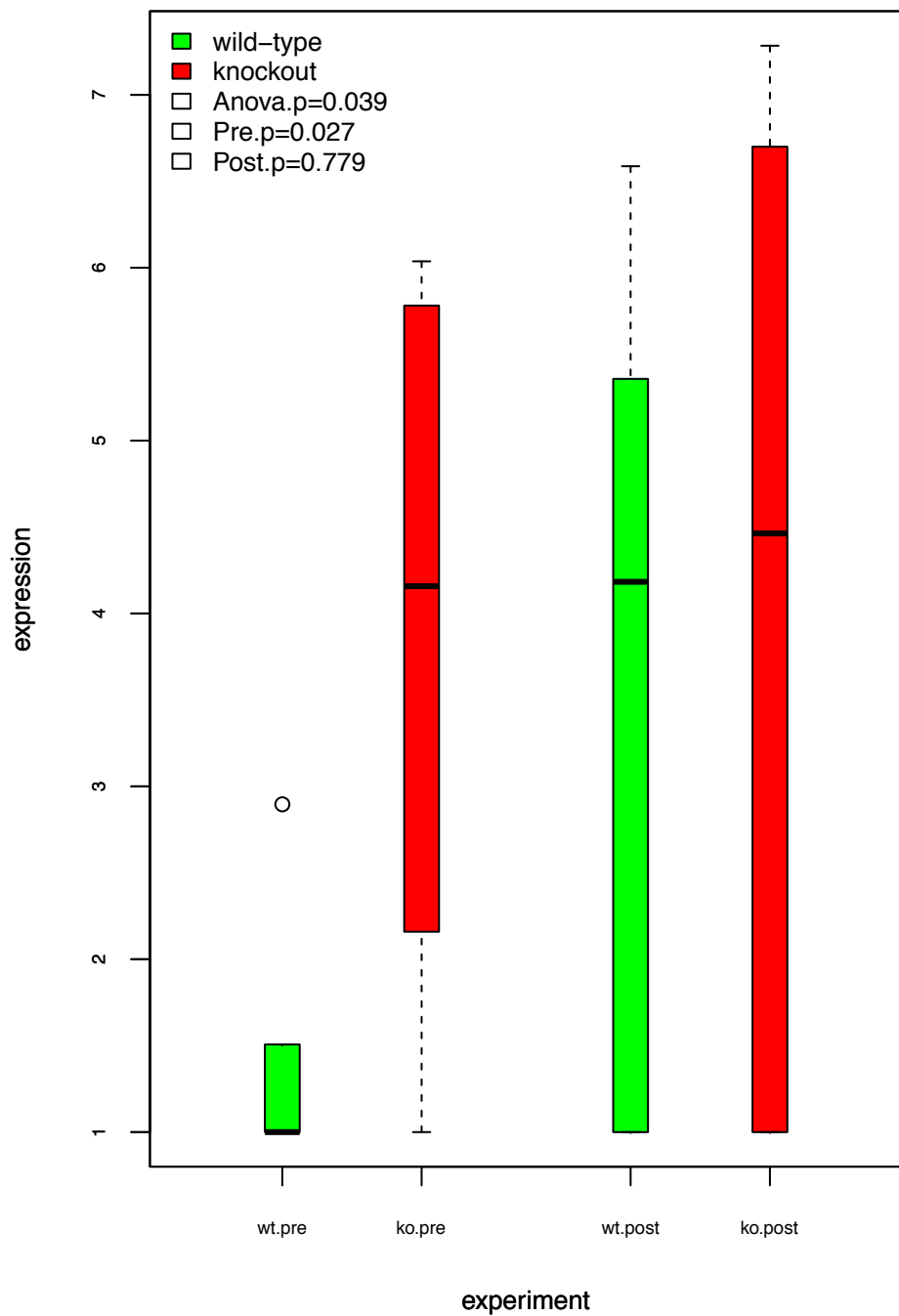
ALK7(Acvr1c)



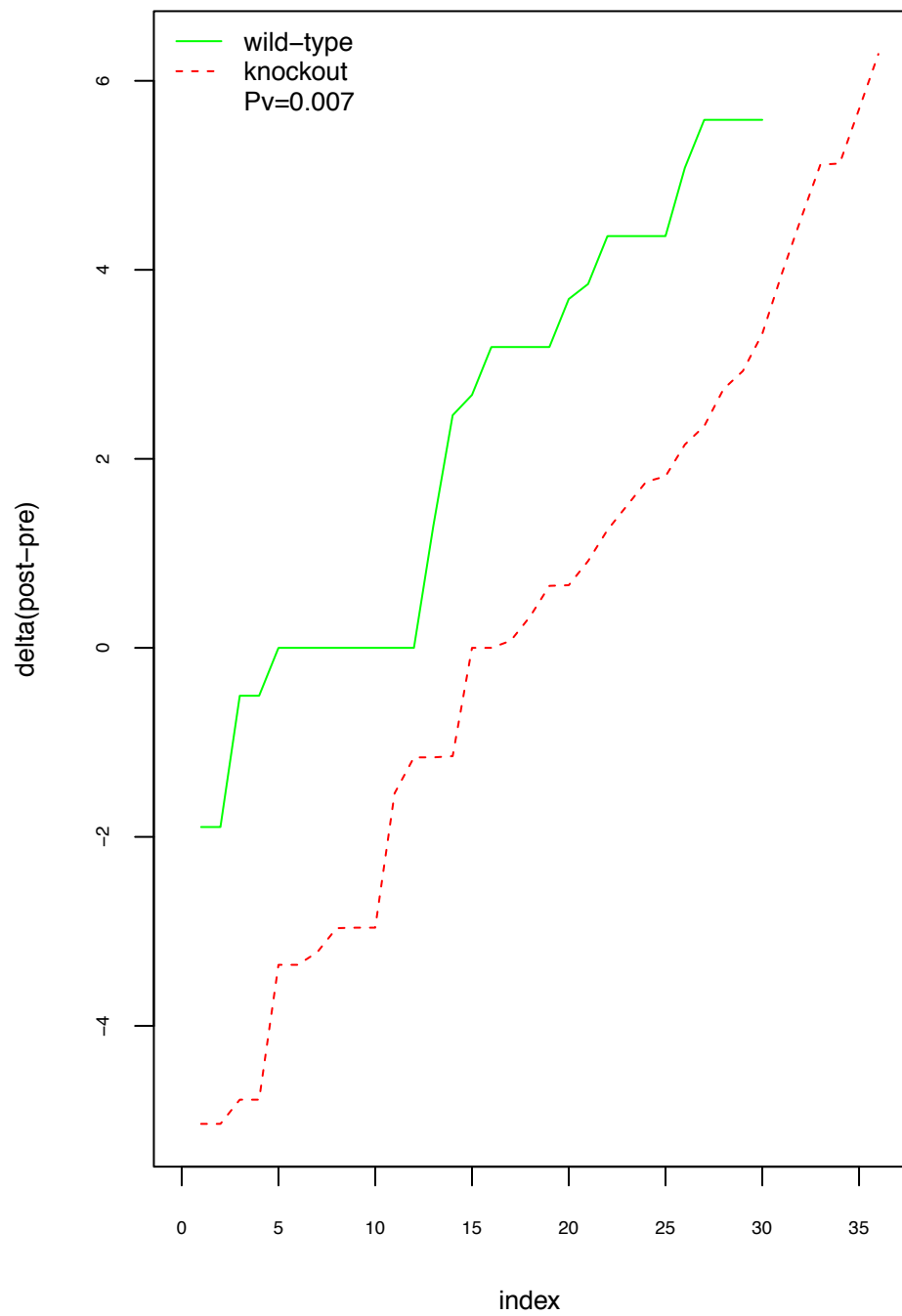
ALK7(Acvr1c)



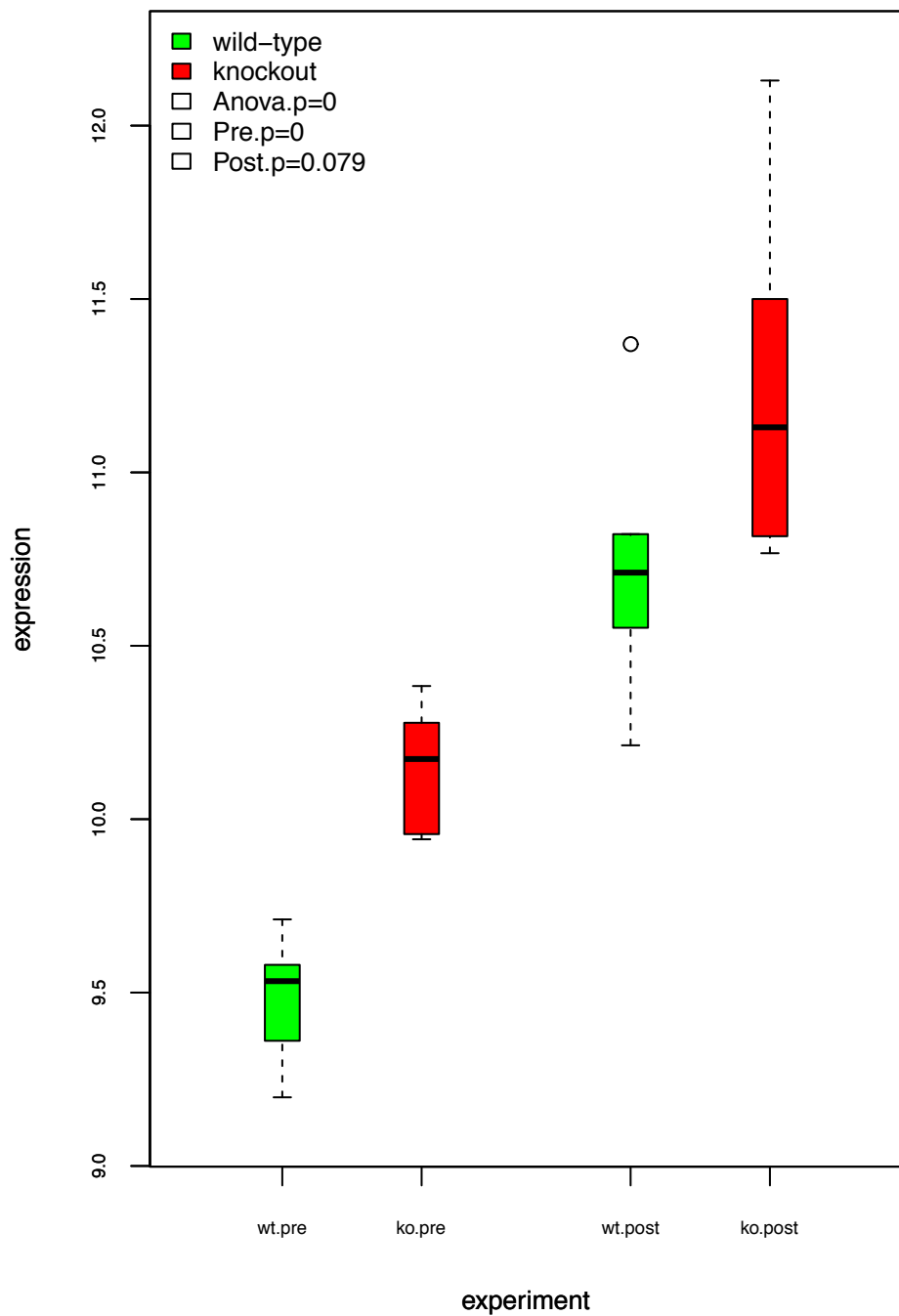
ALK6(Bmpr1b)



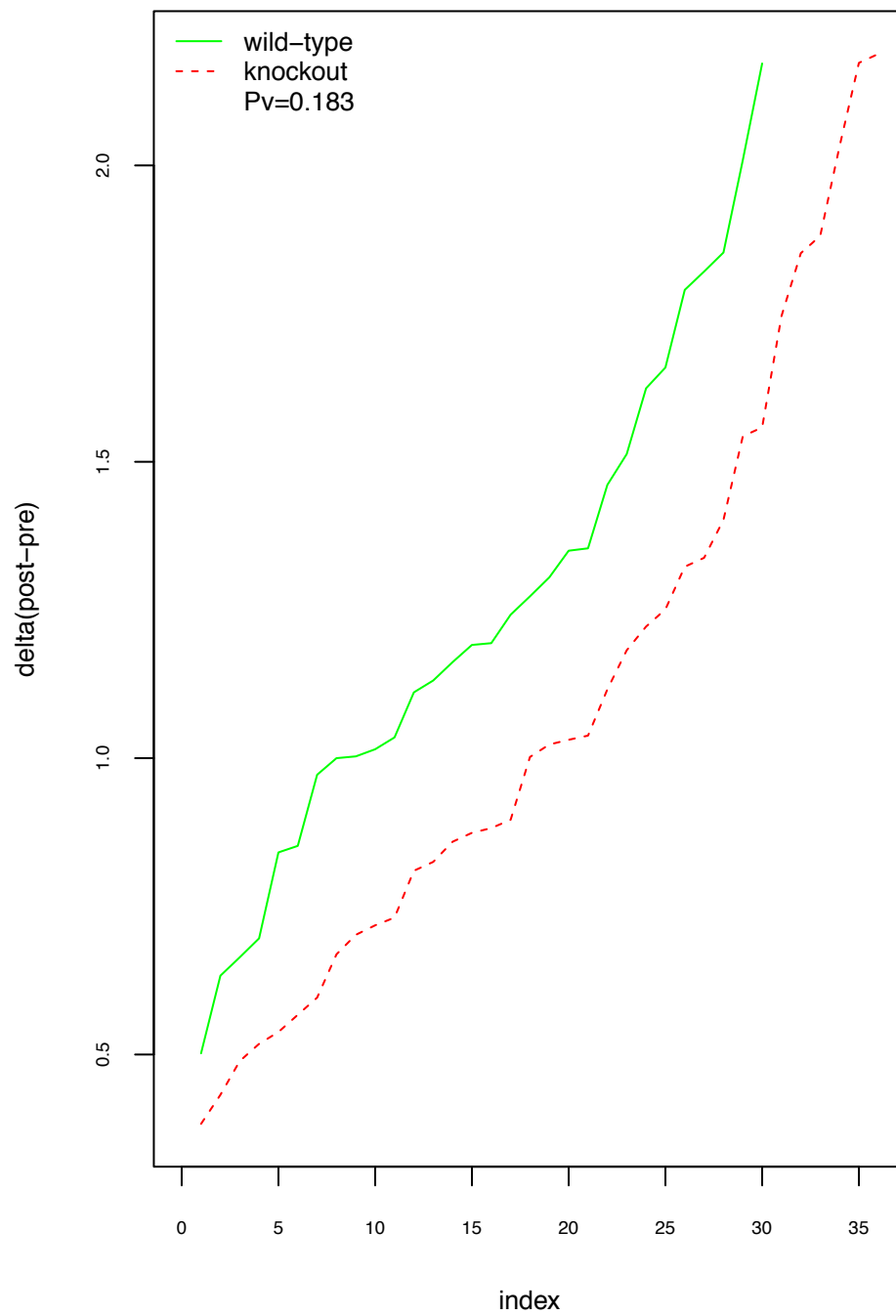
ALK6(Bmpr1b)



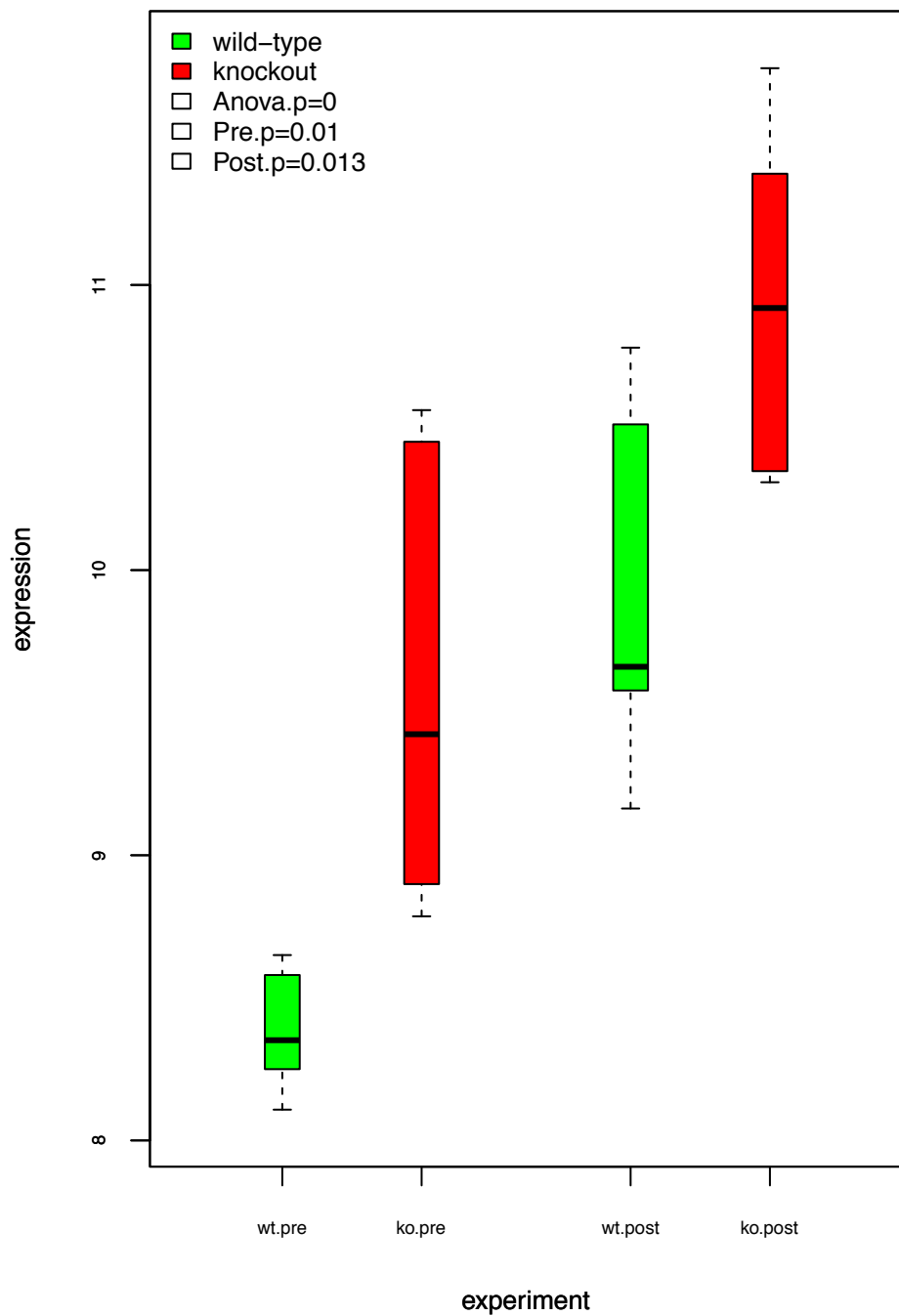
ALK5(Tgfbr1)



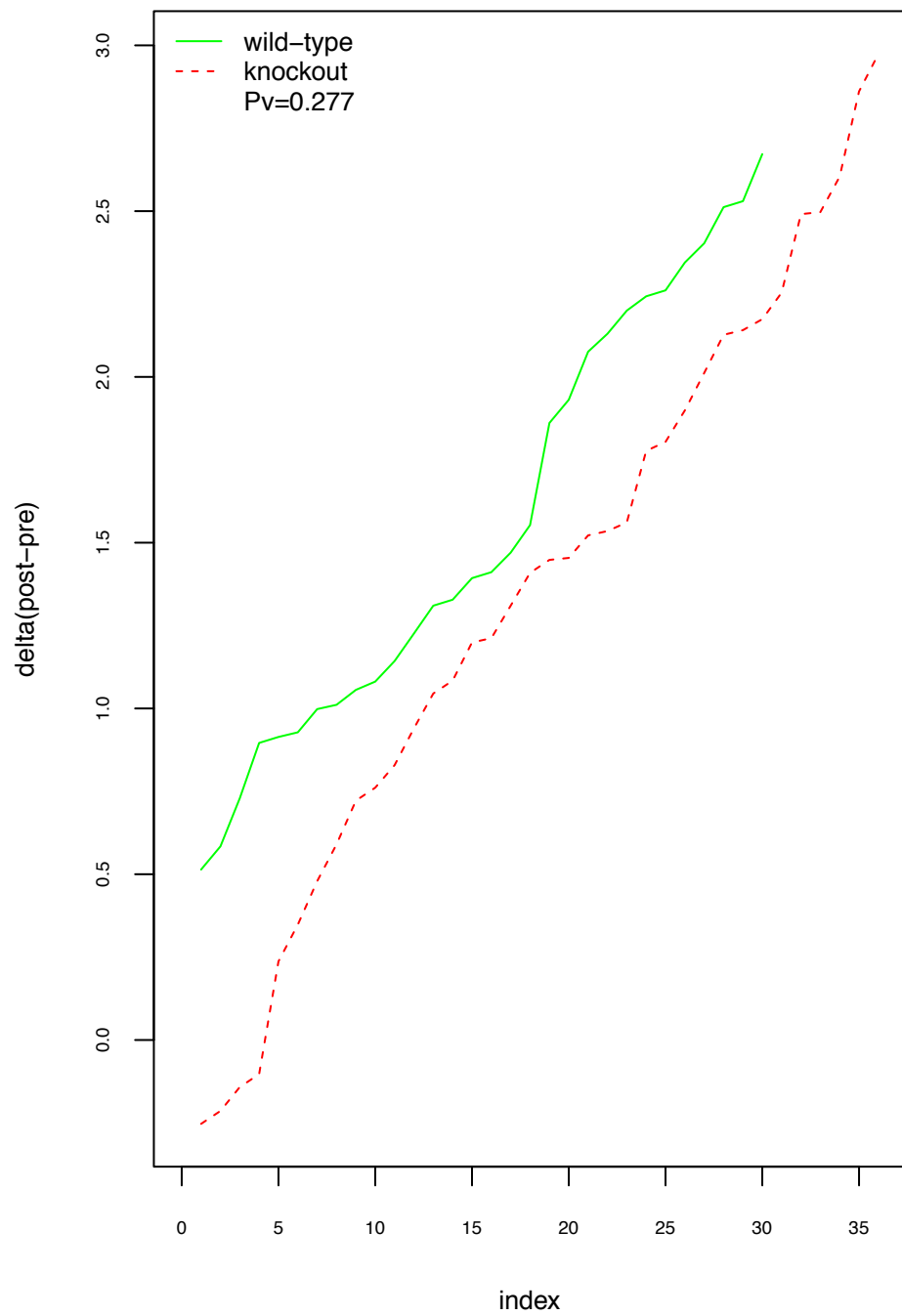
ALK5(Tgfbr1)



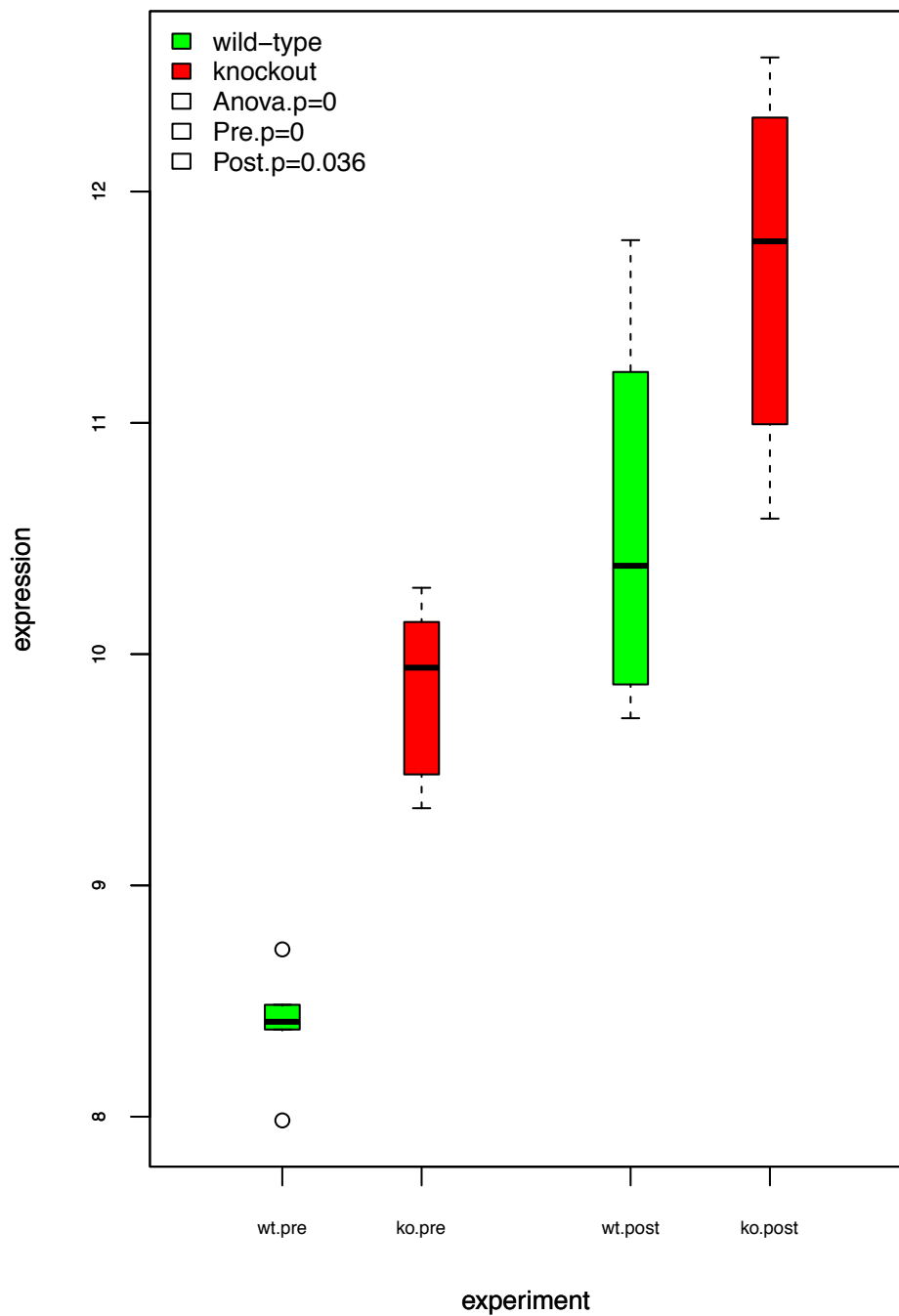
ALK4(Acvr1b)



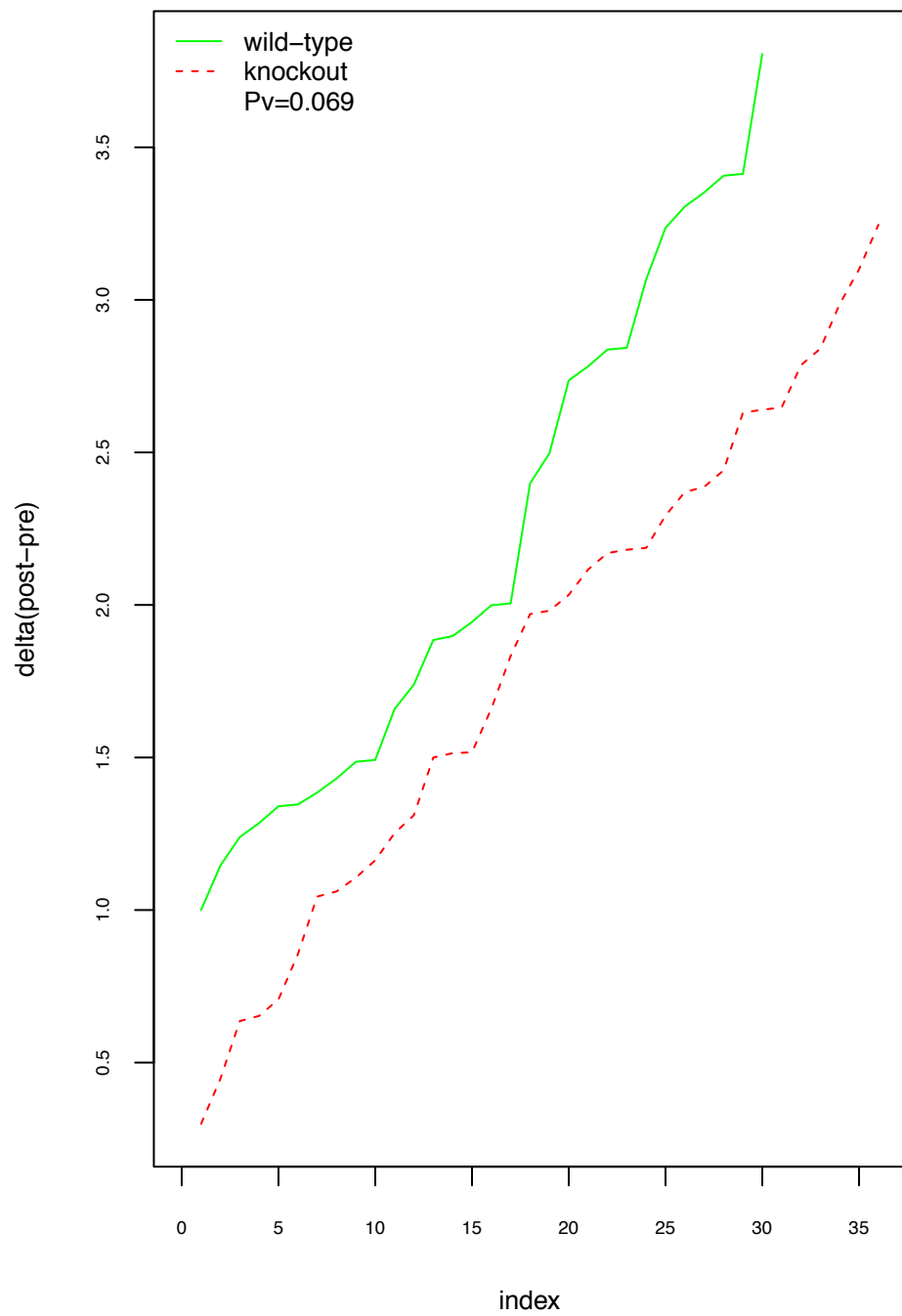
ALK4(Acvr1b)



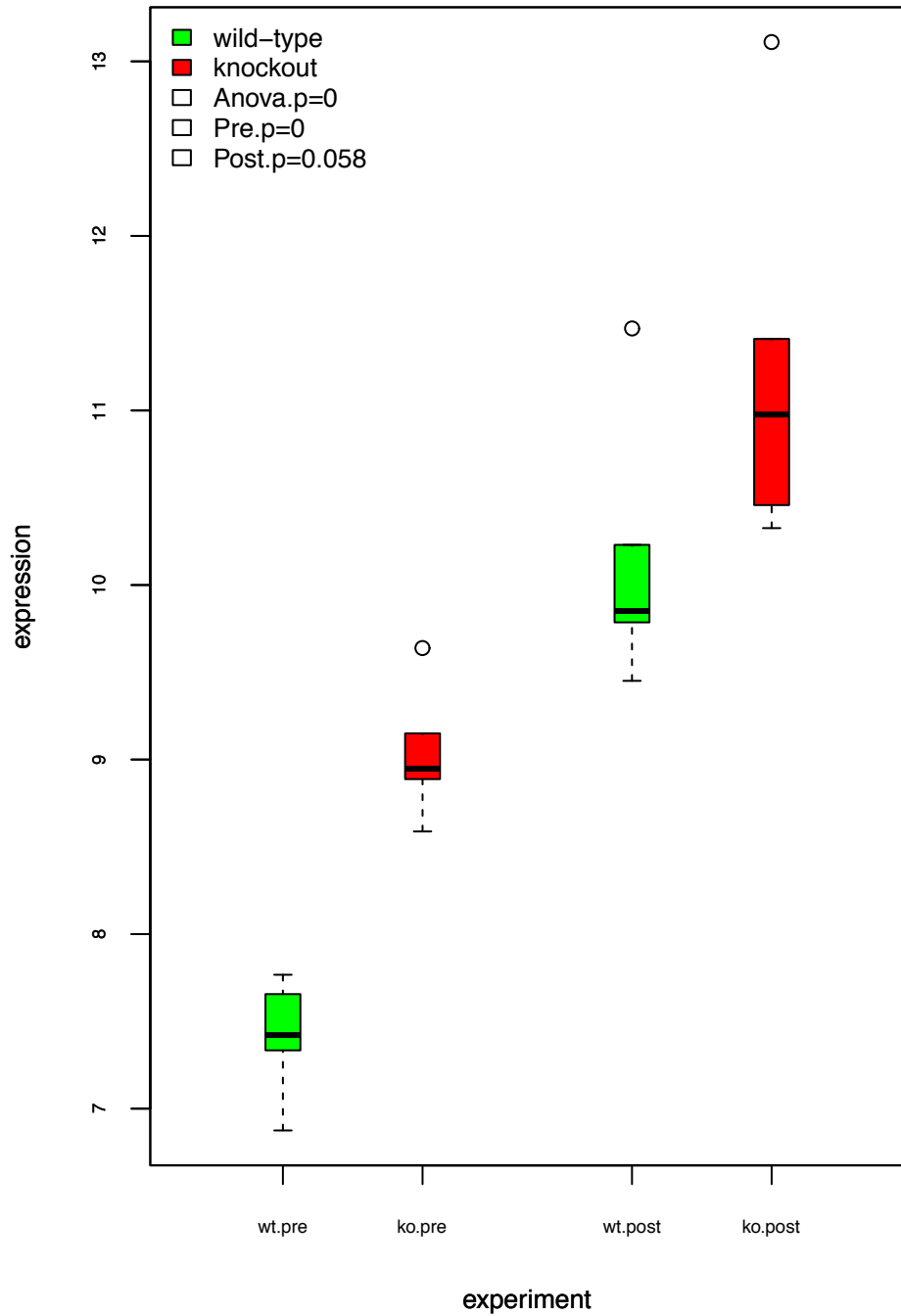
ALK3(Bmpr1a)



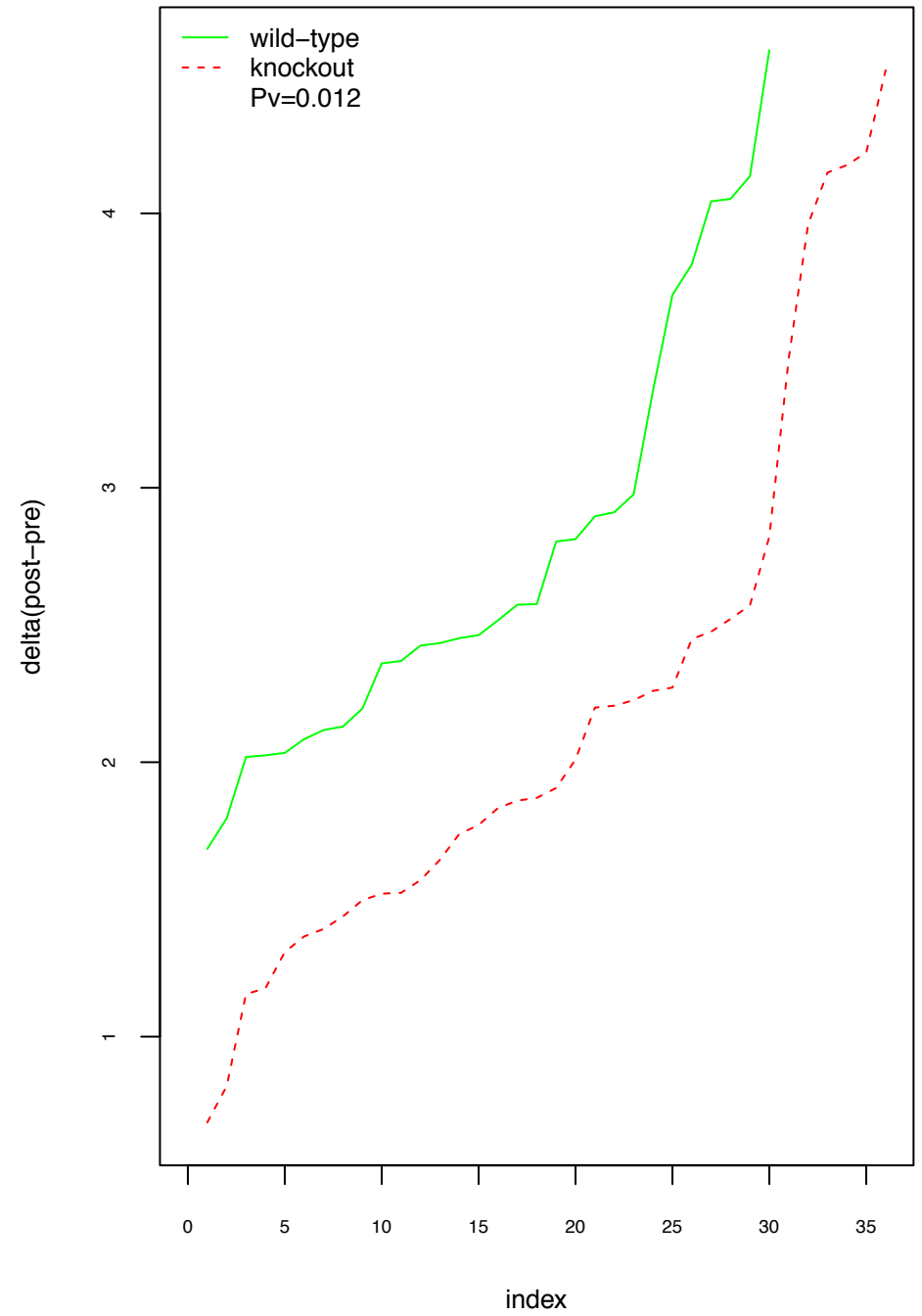
ALK3(Bmpr1a)



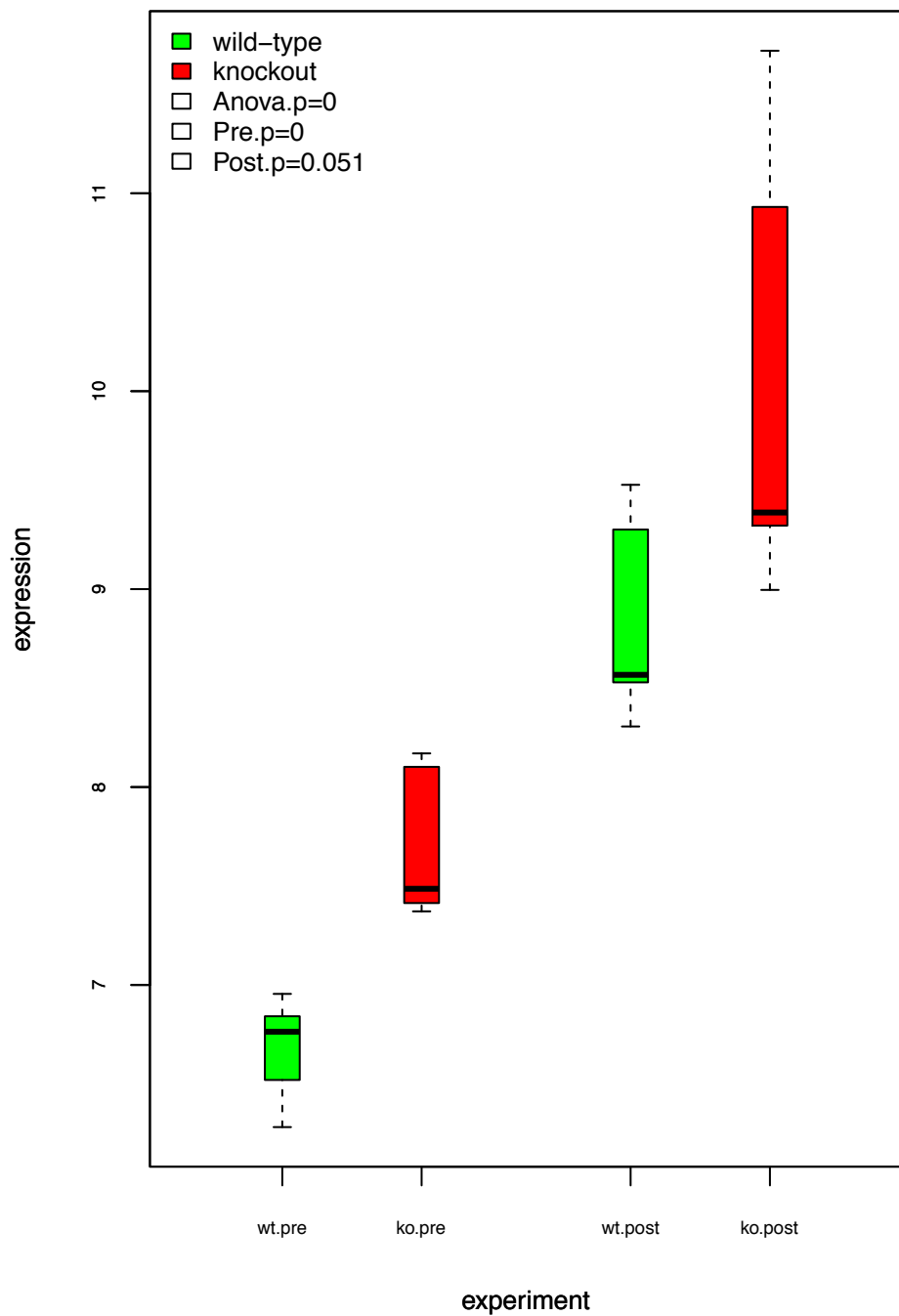
ALK2(Acvr1)



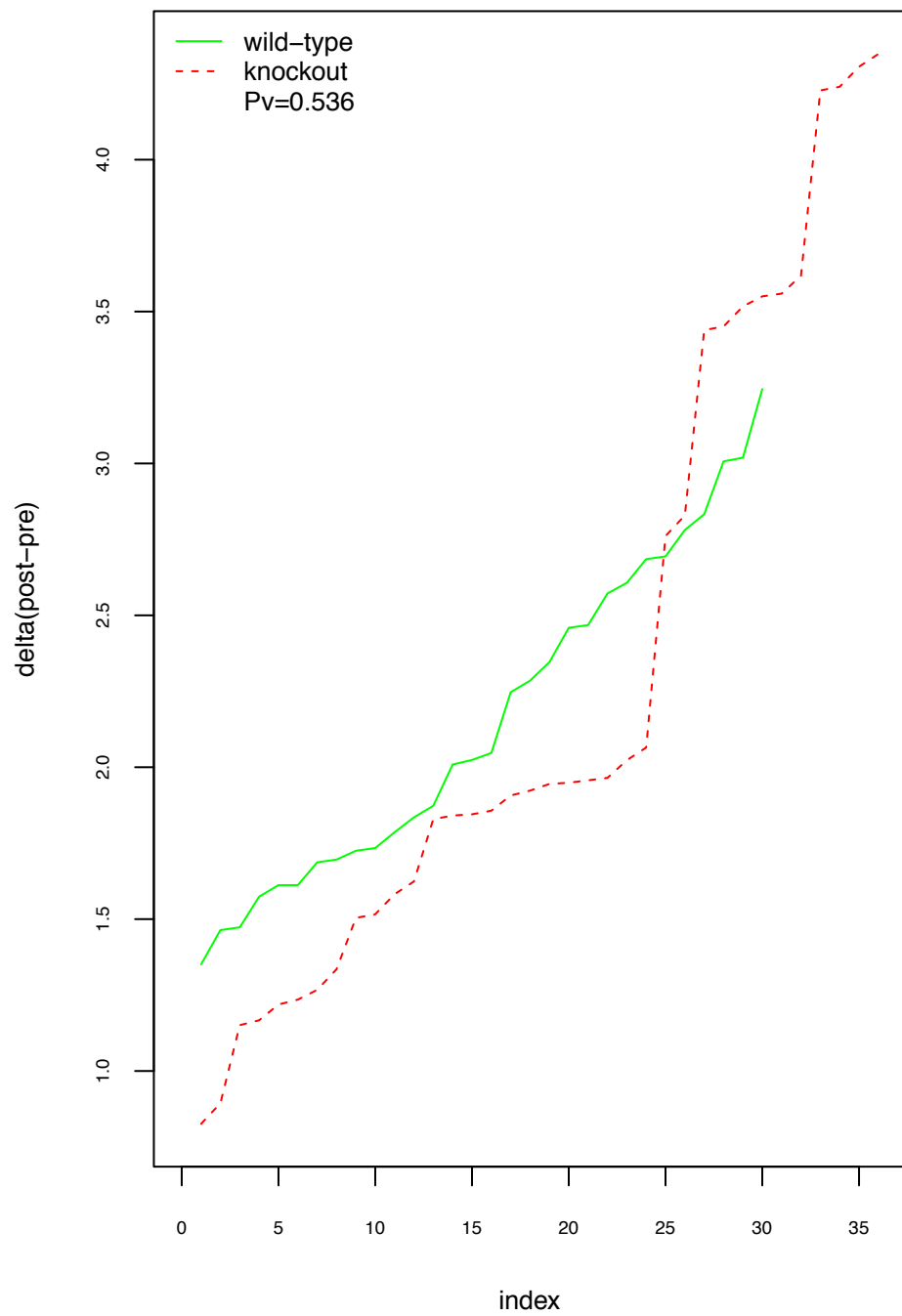
ALK2(Acvr1)



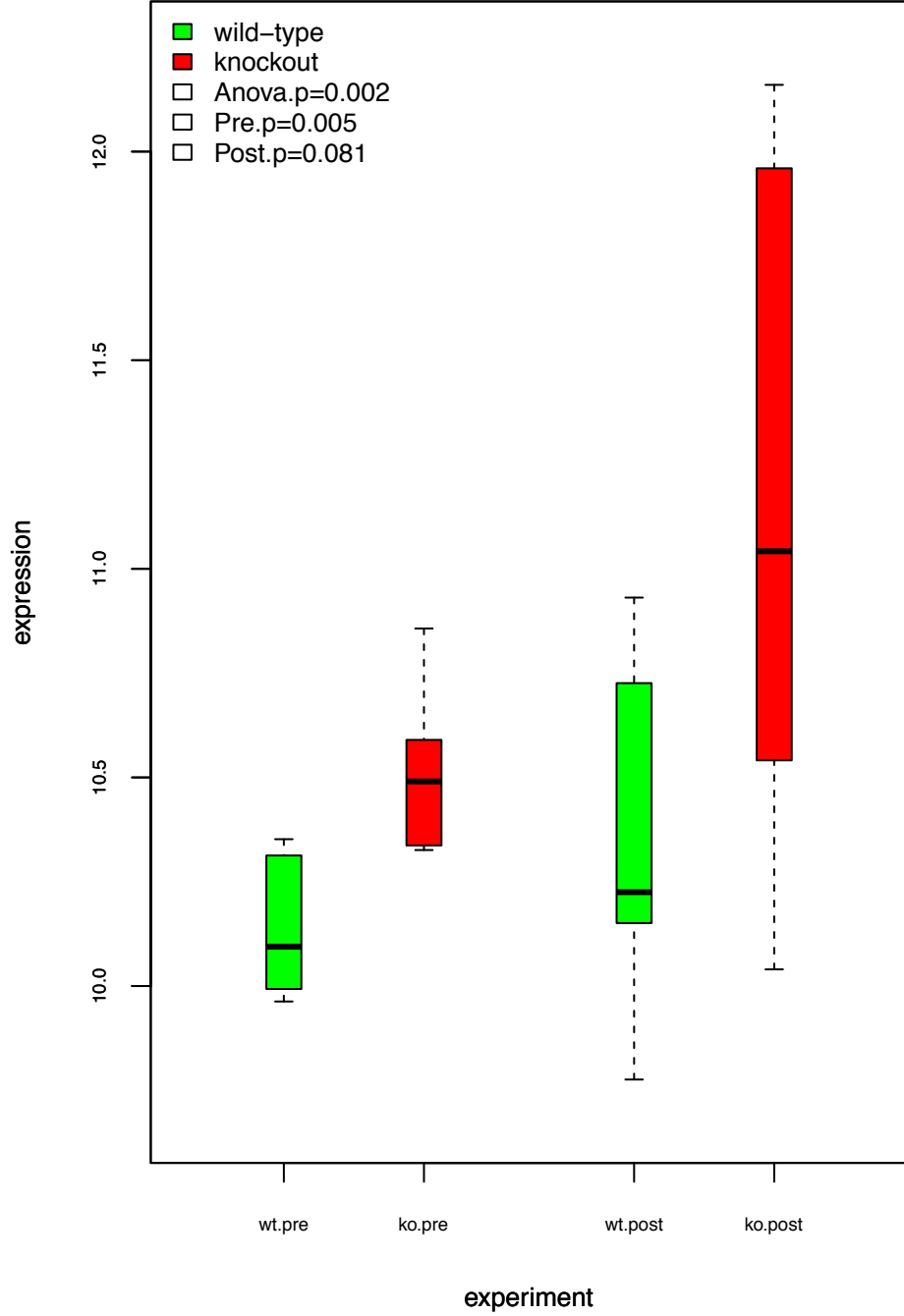
ALK1(Acvrl1)



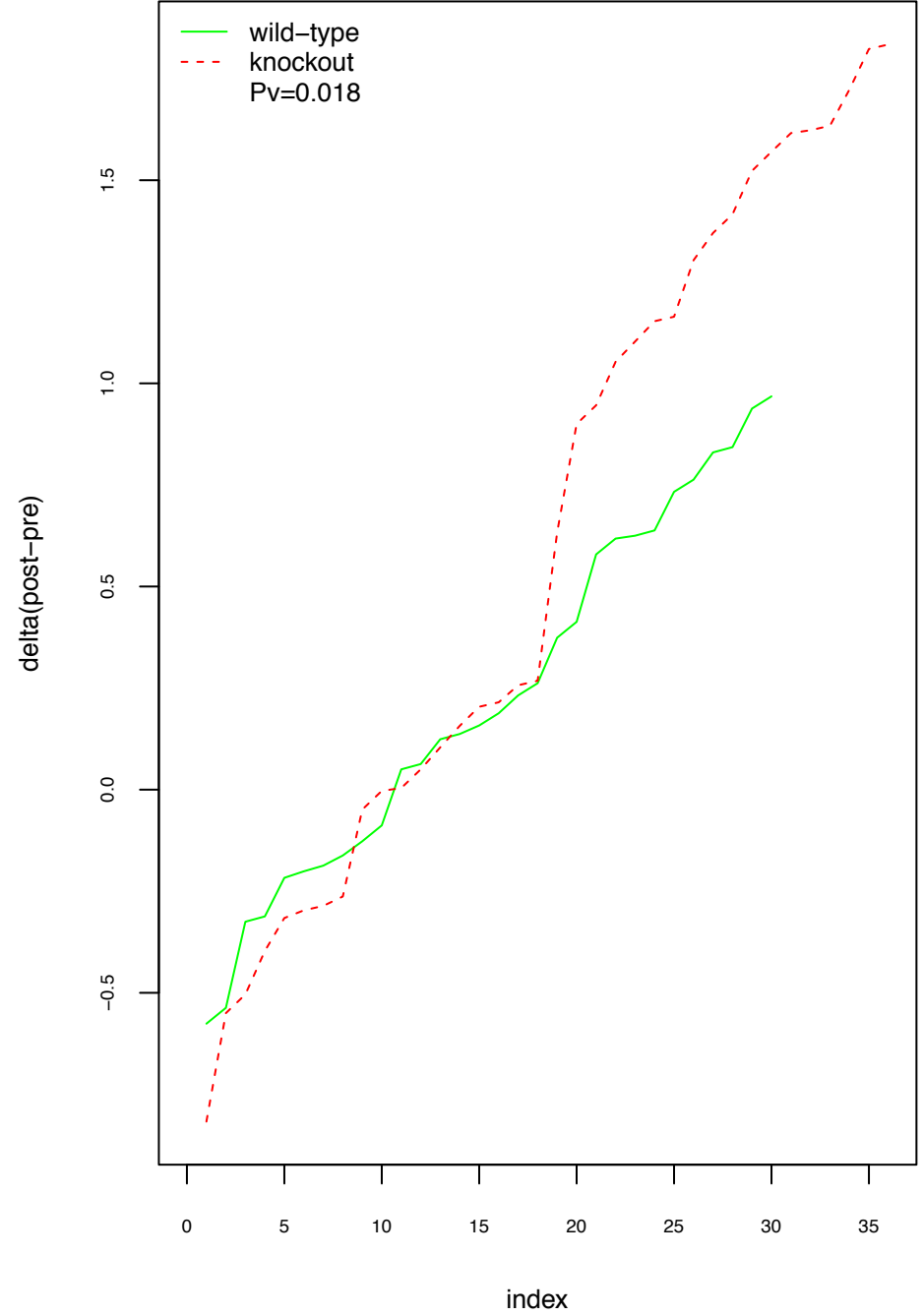
ALK1(Acvrl1)



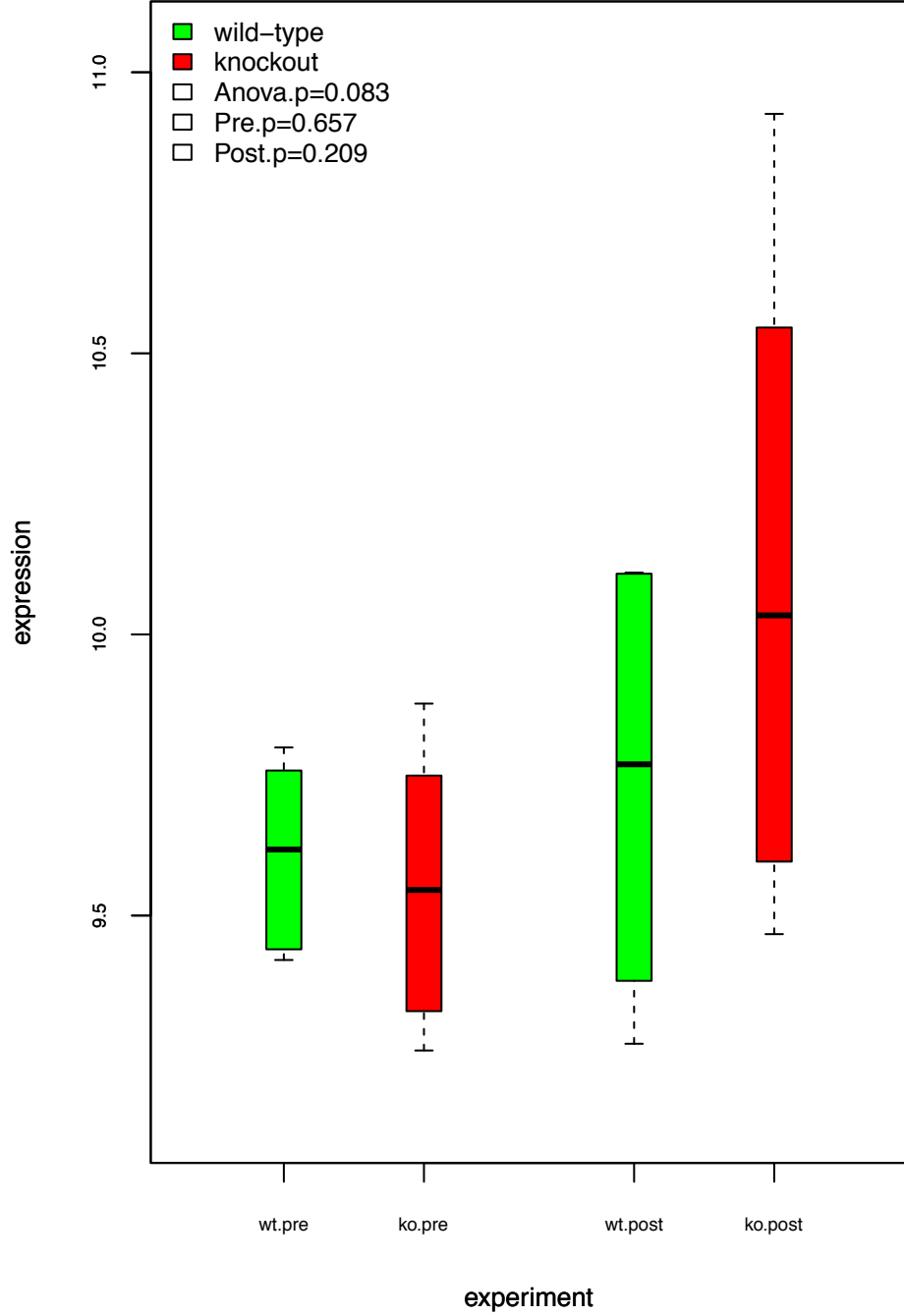
Adipor2



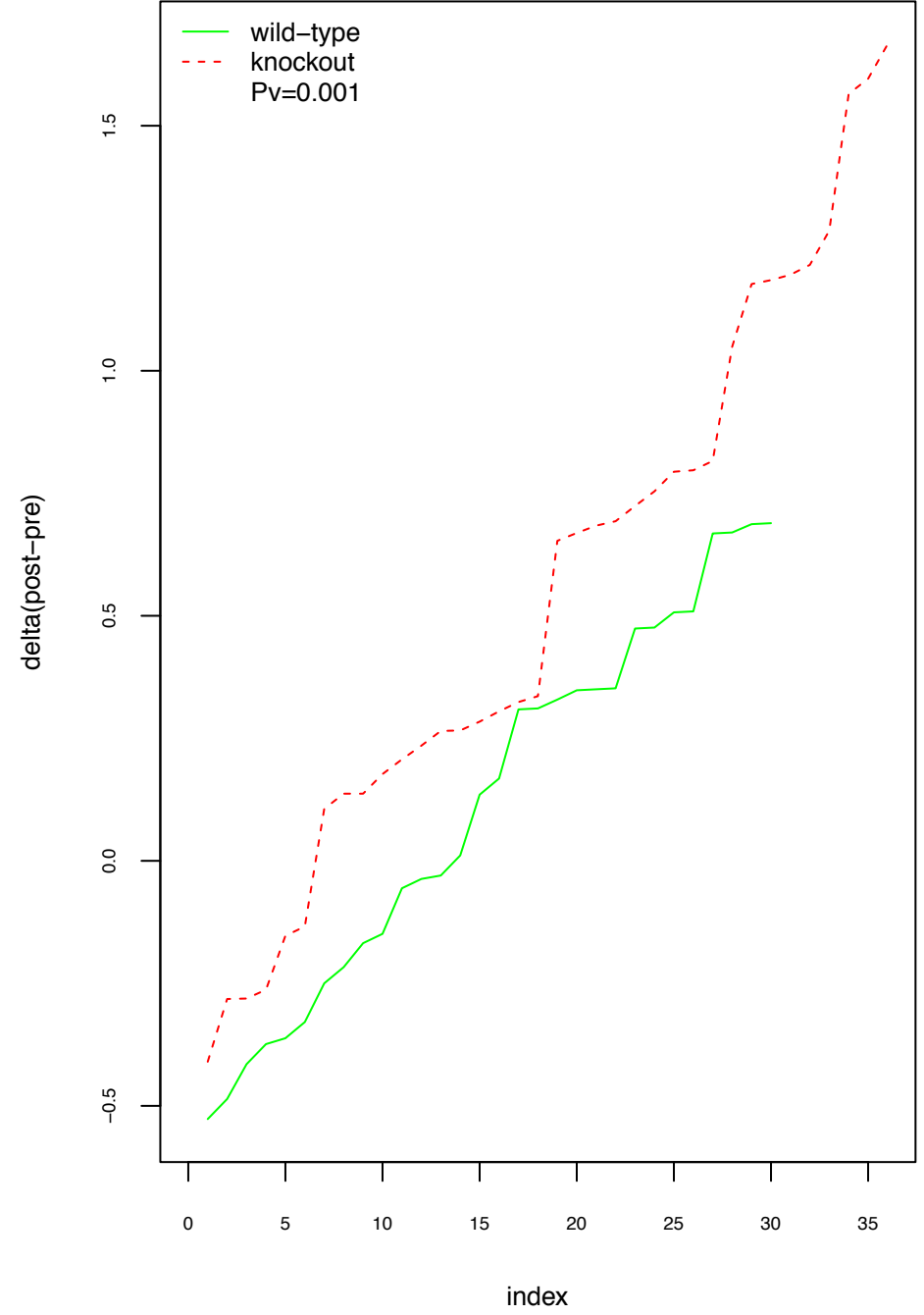
Adipor2



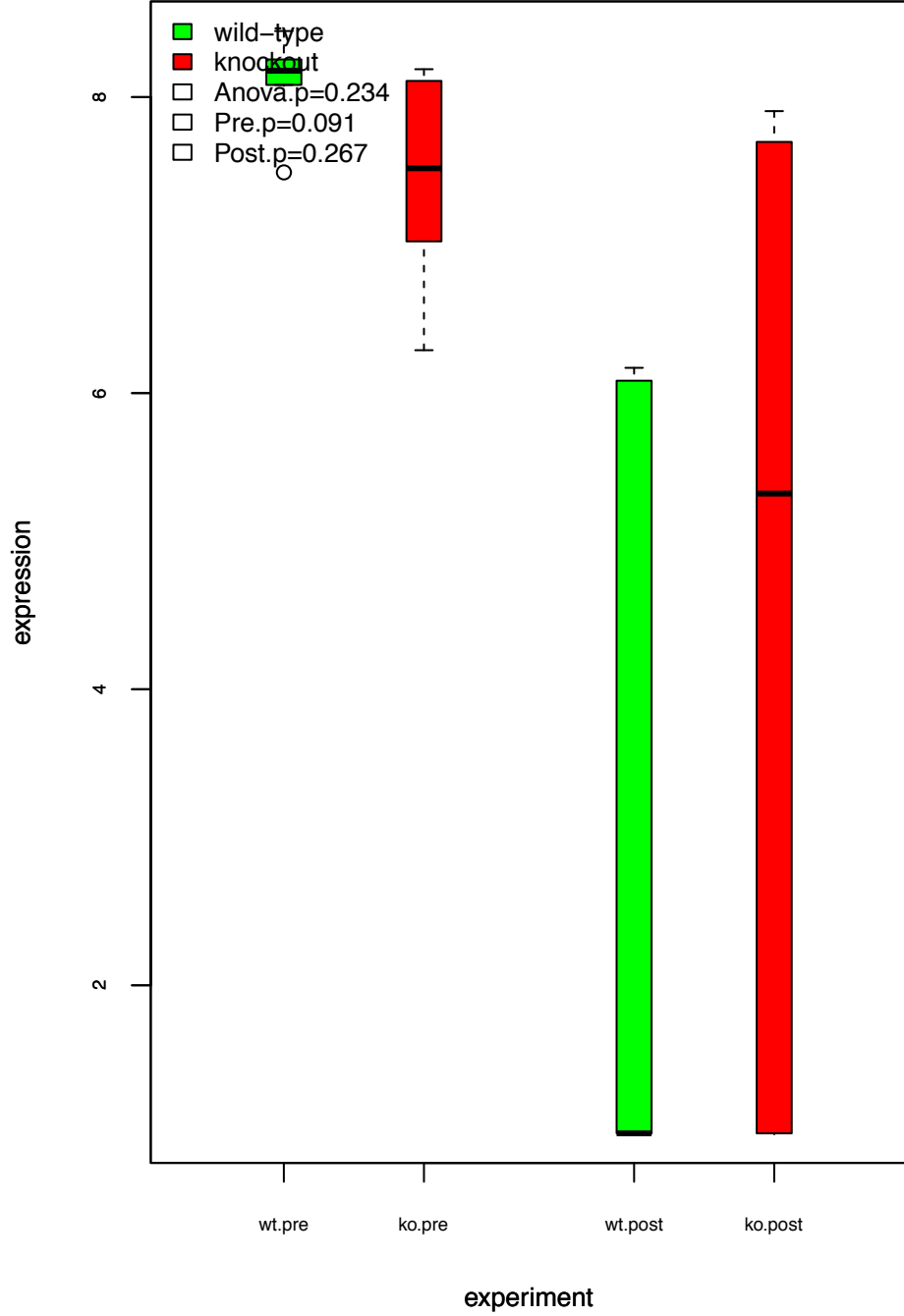
Adipor1



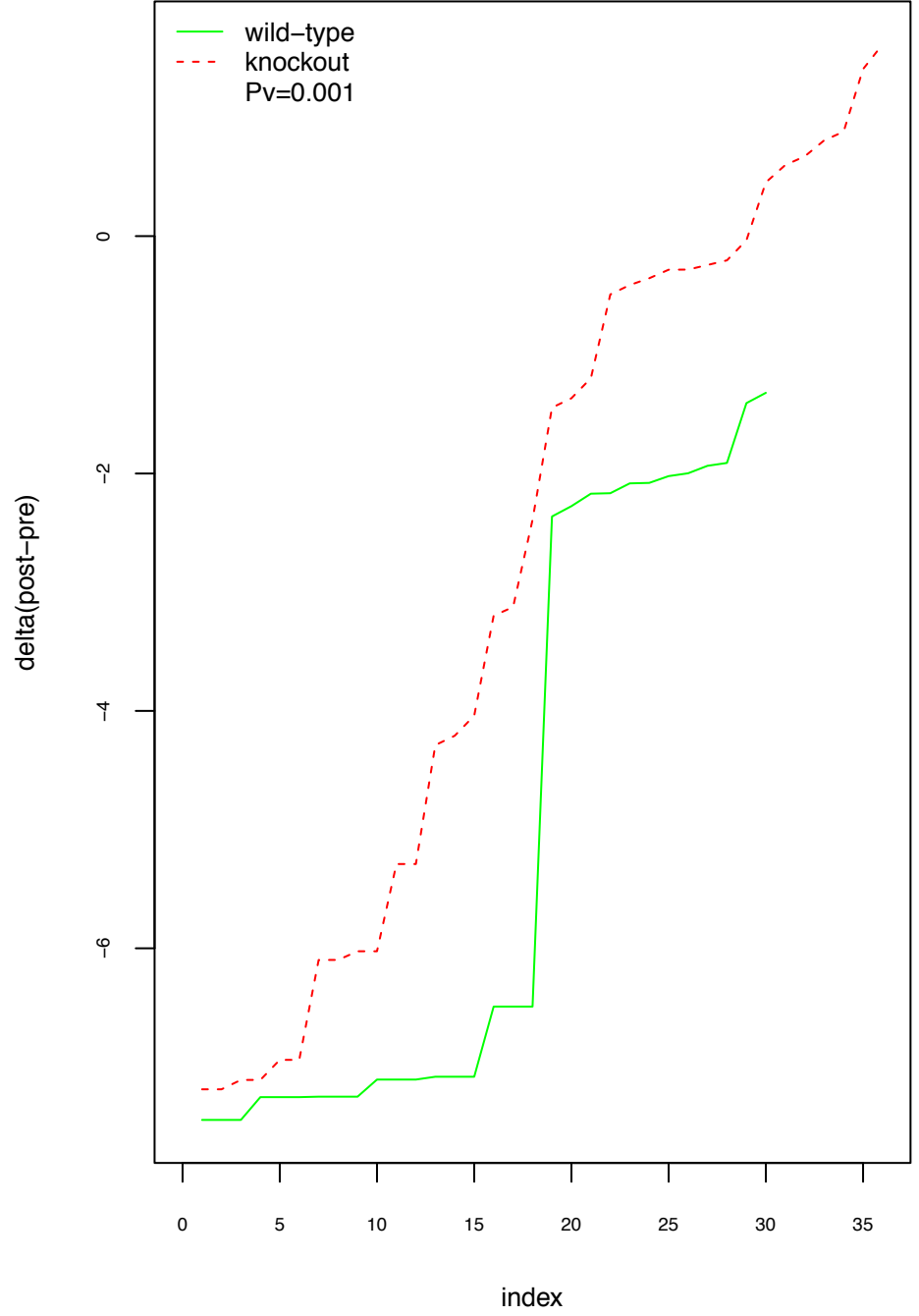
Adipor1



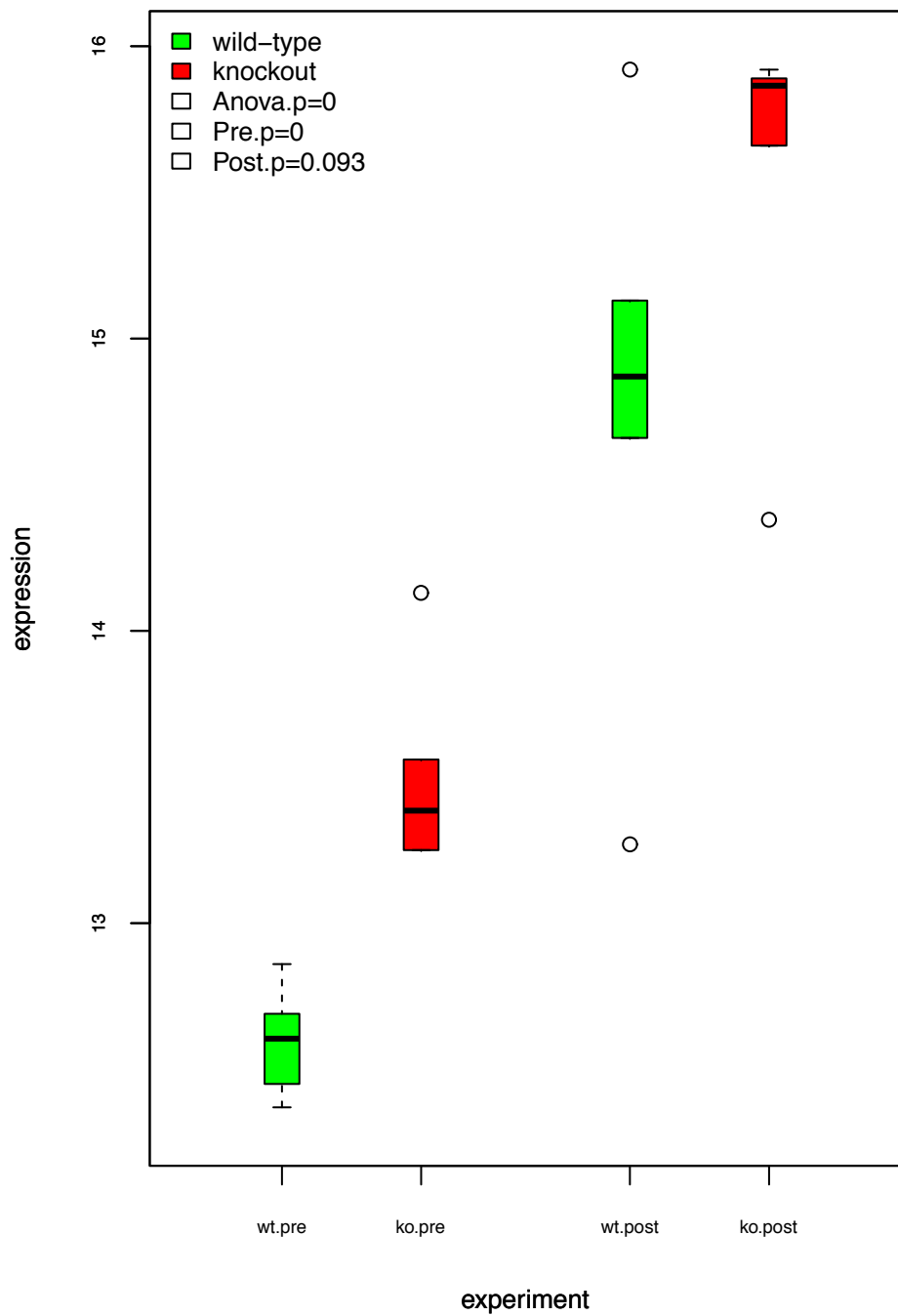
Adipoq



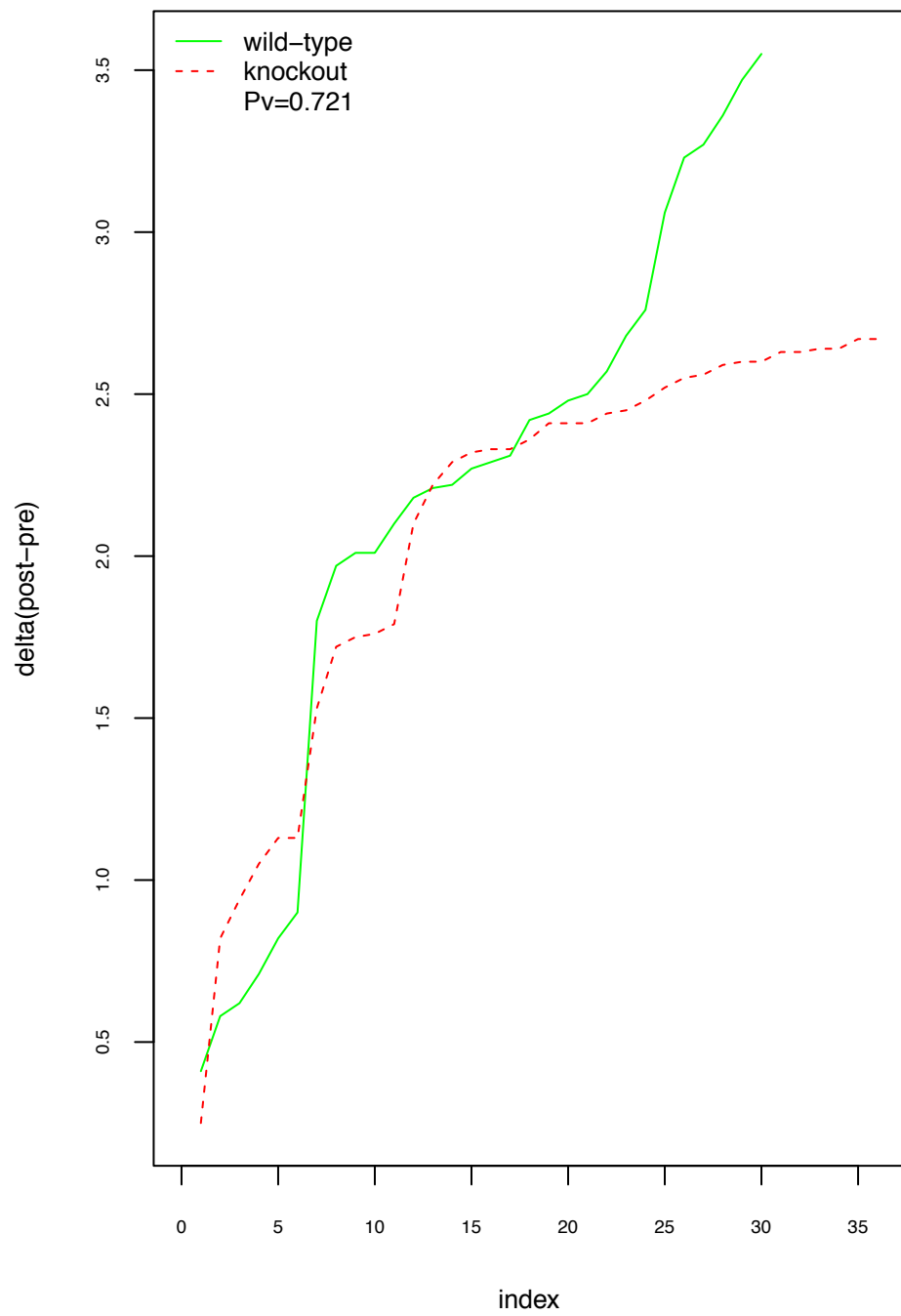
Adipoq



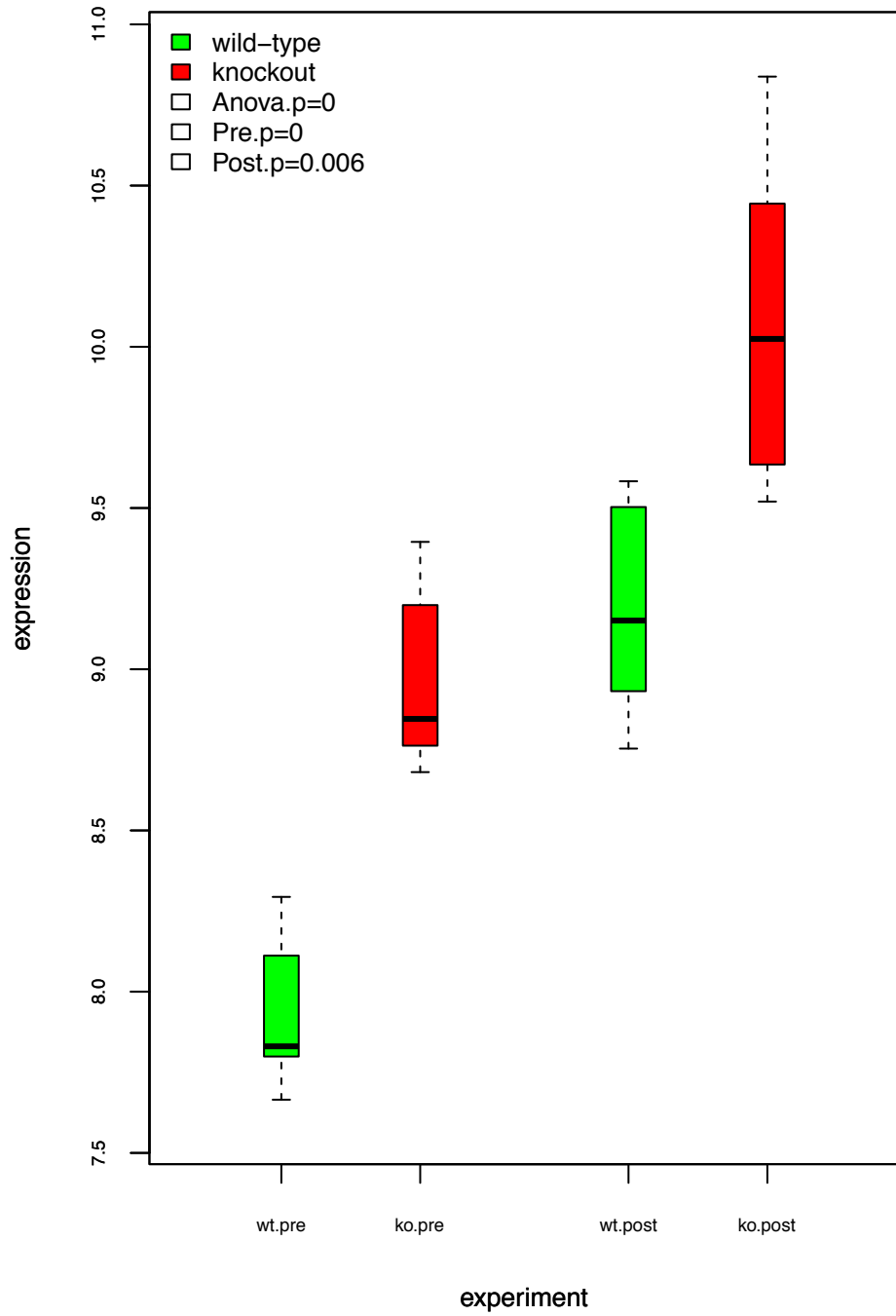
BSP(lbsp)



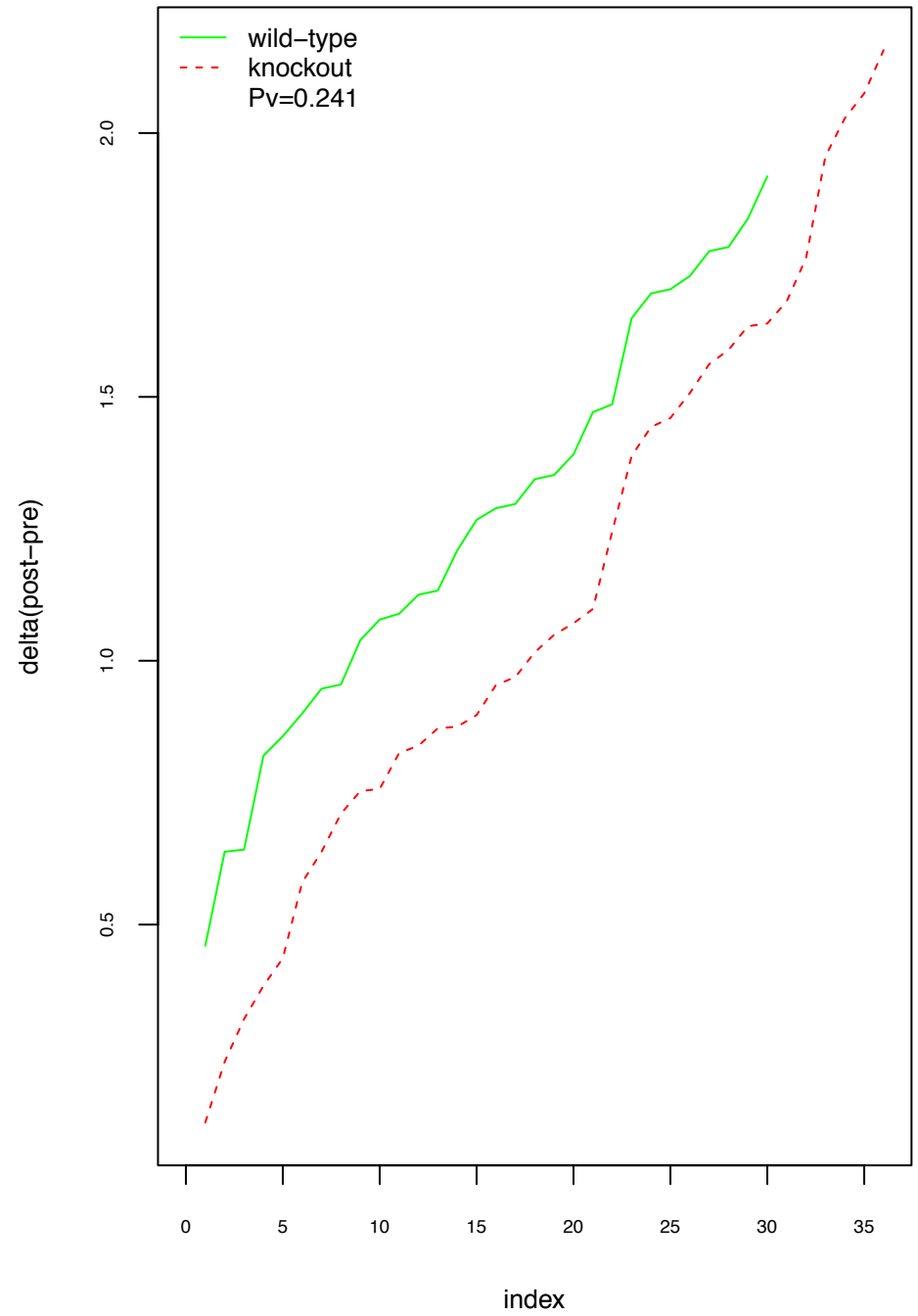
BSP(lbsp)



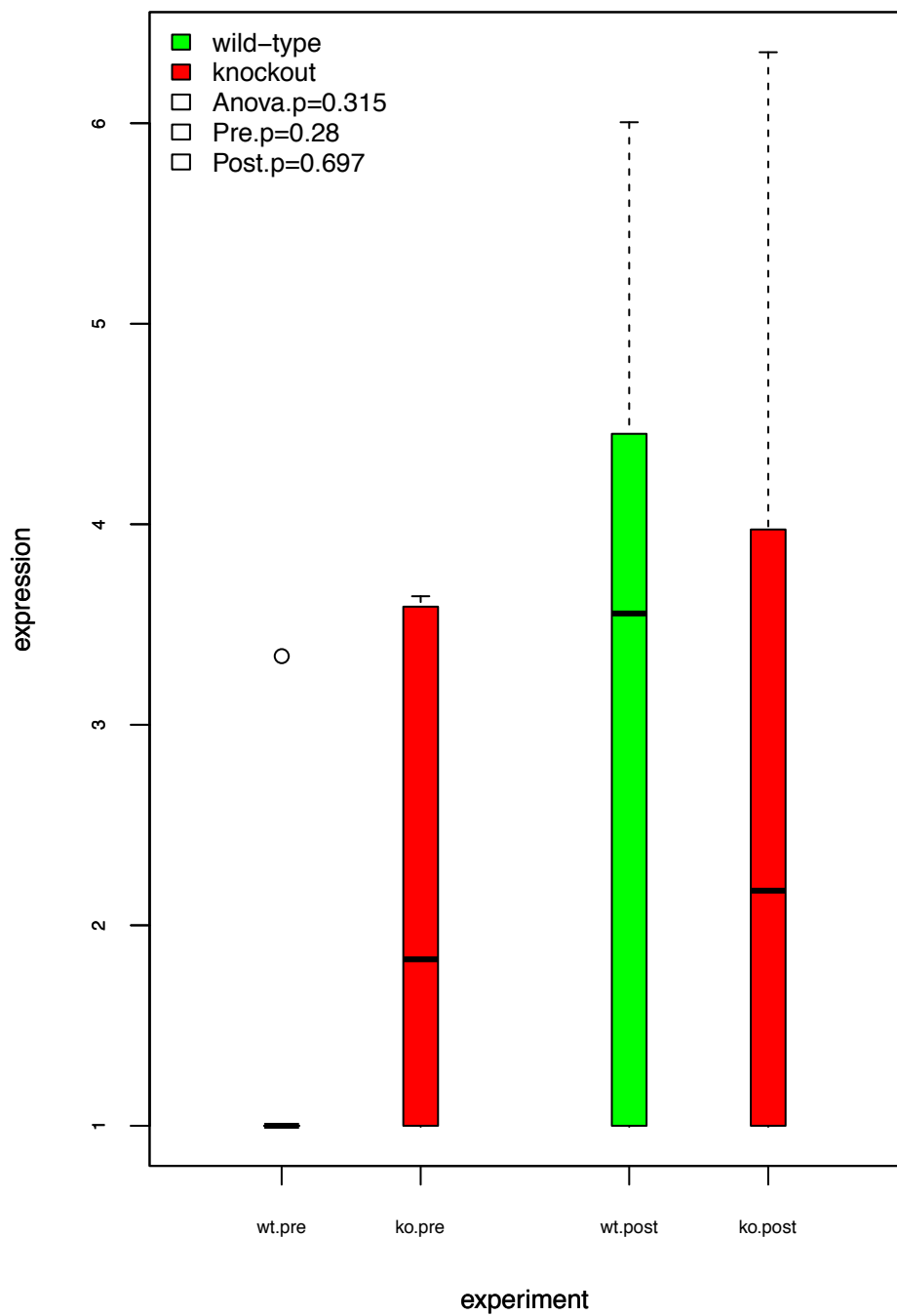
Bmpr2



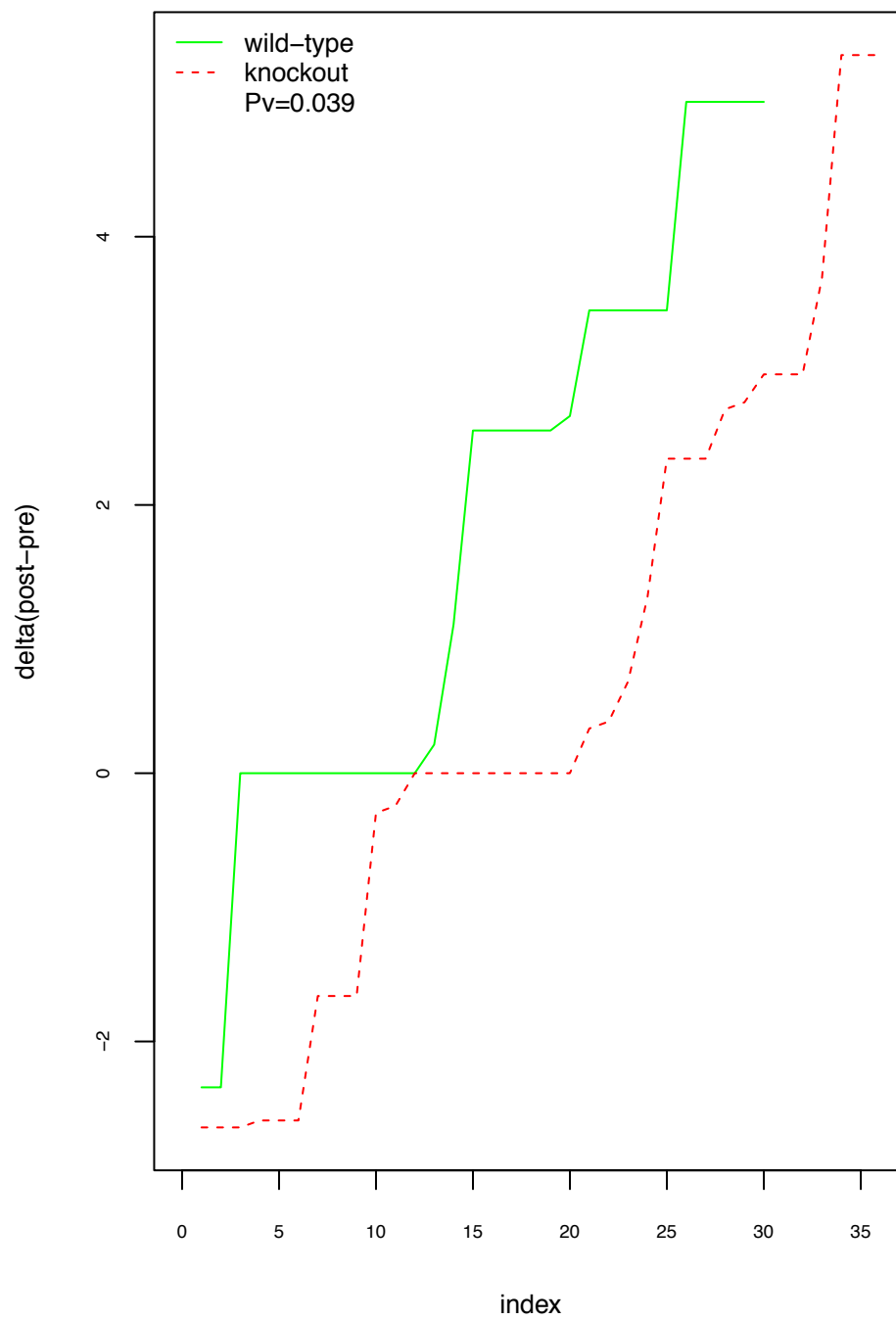
Bmpr2



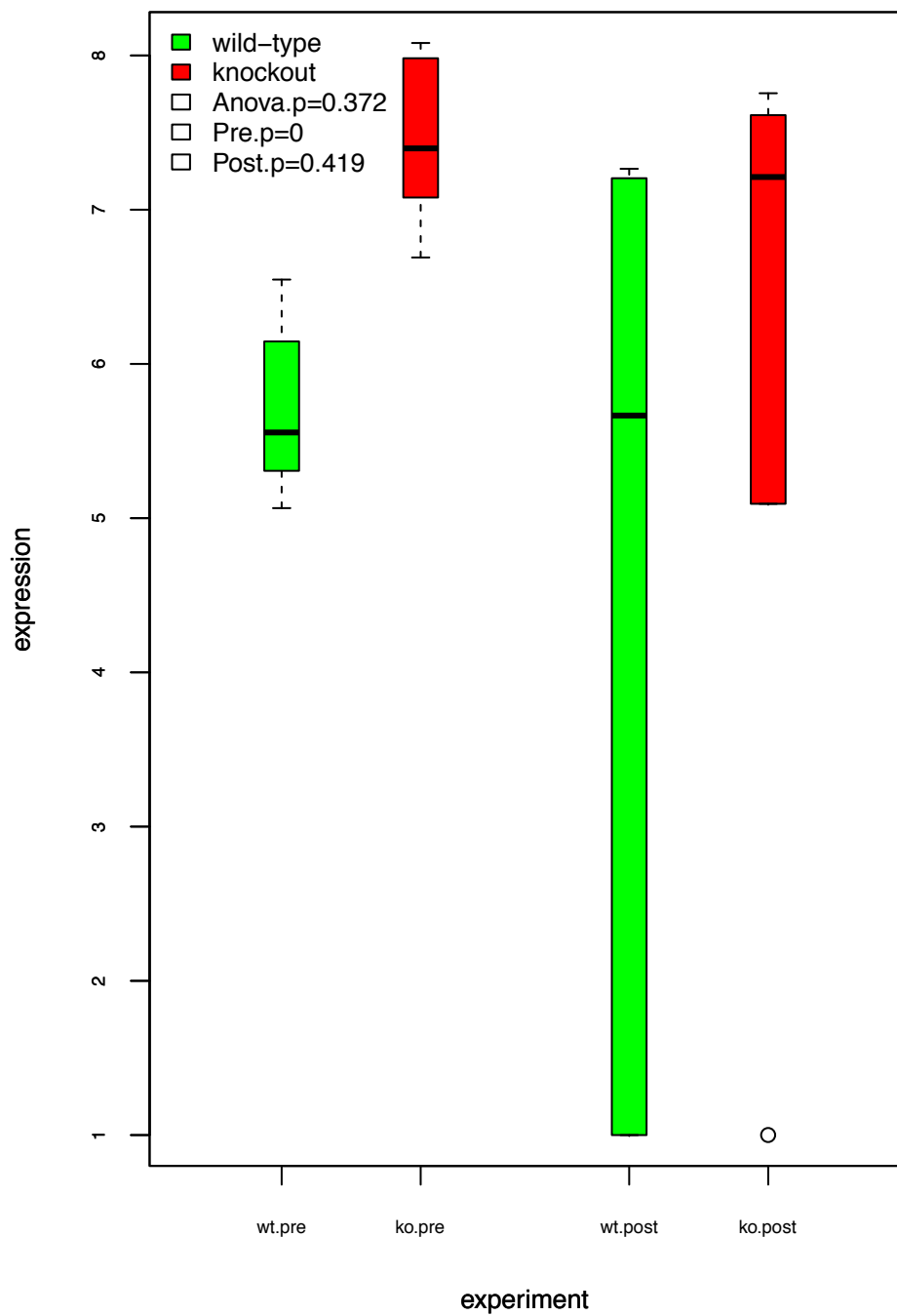
Bmp7



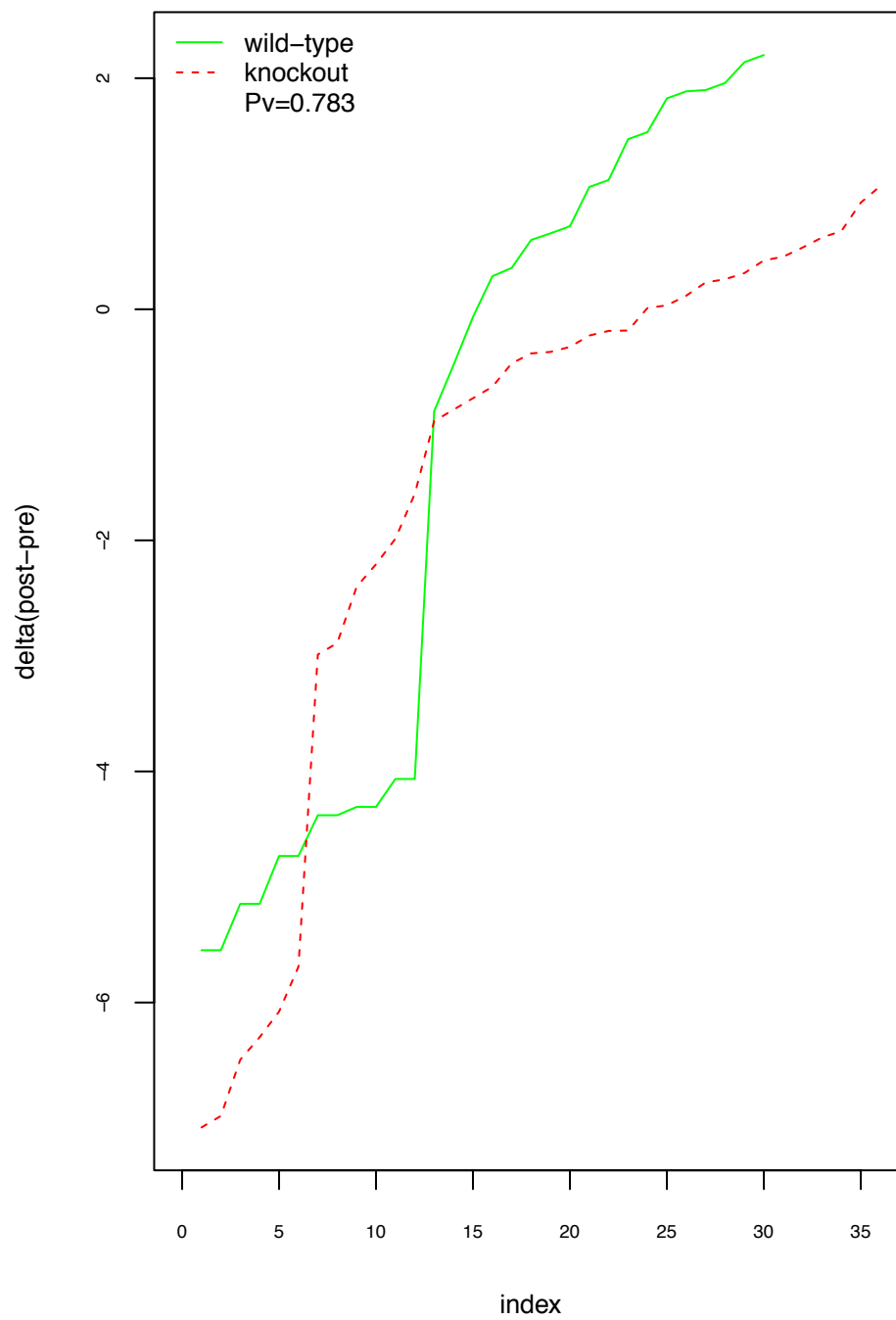
Bmp7



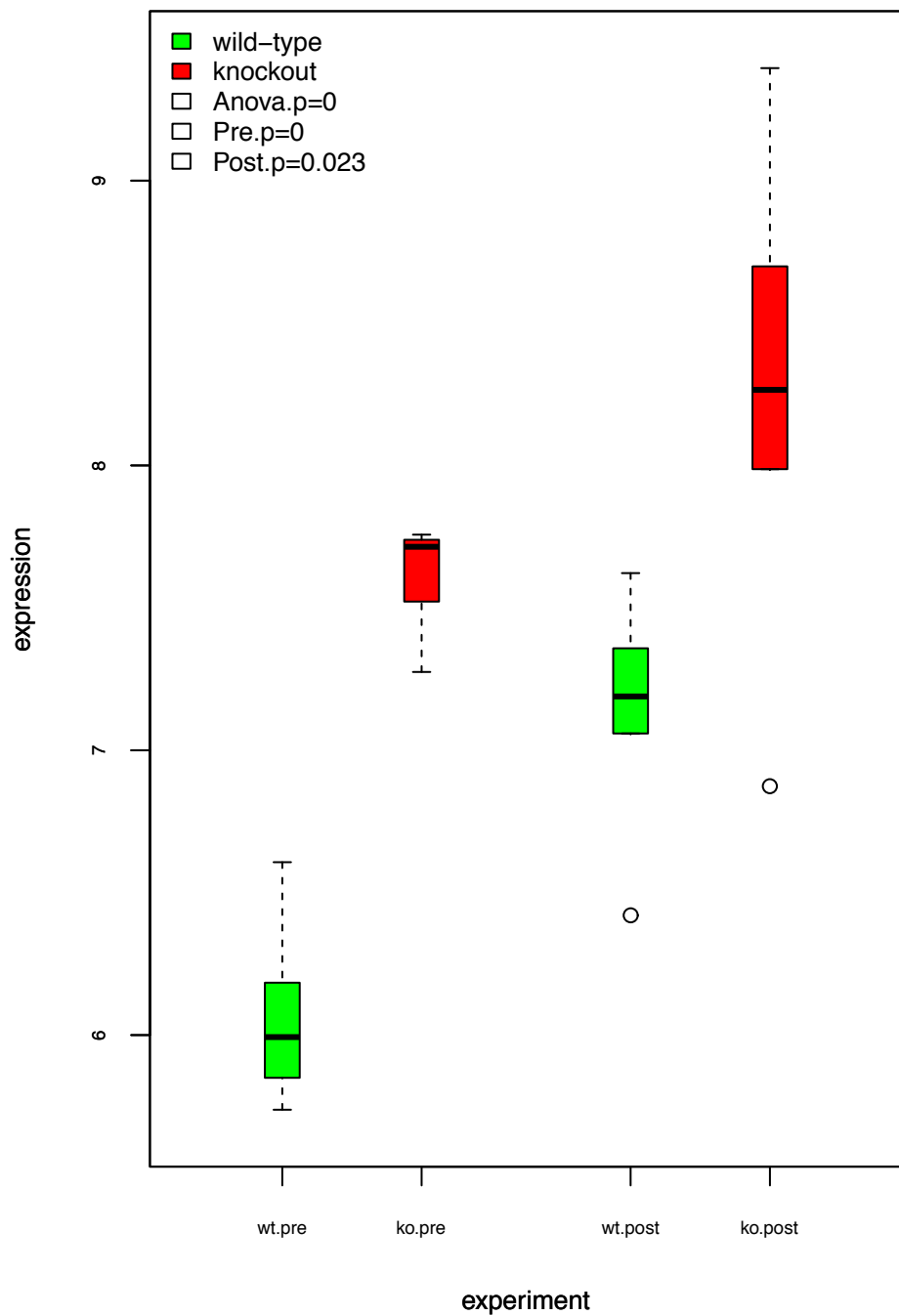
Bmp5



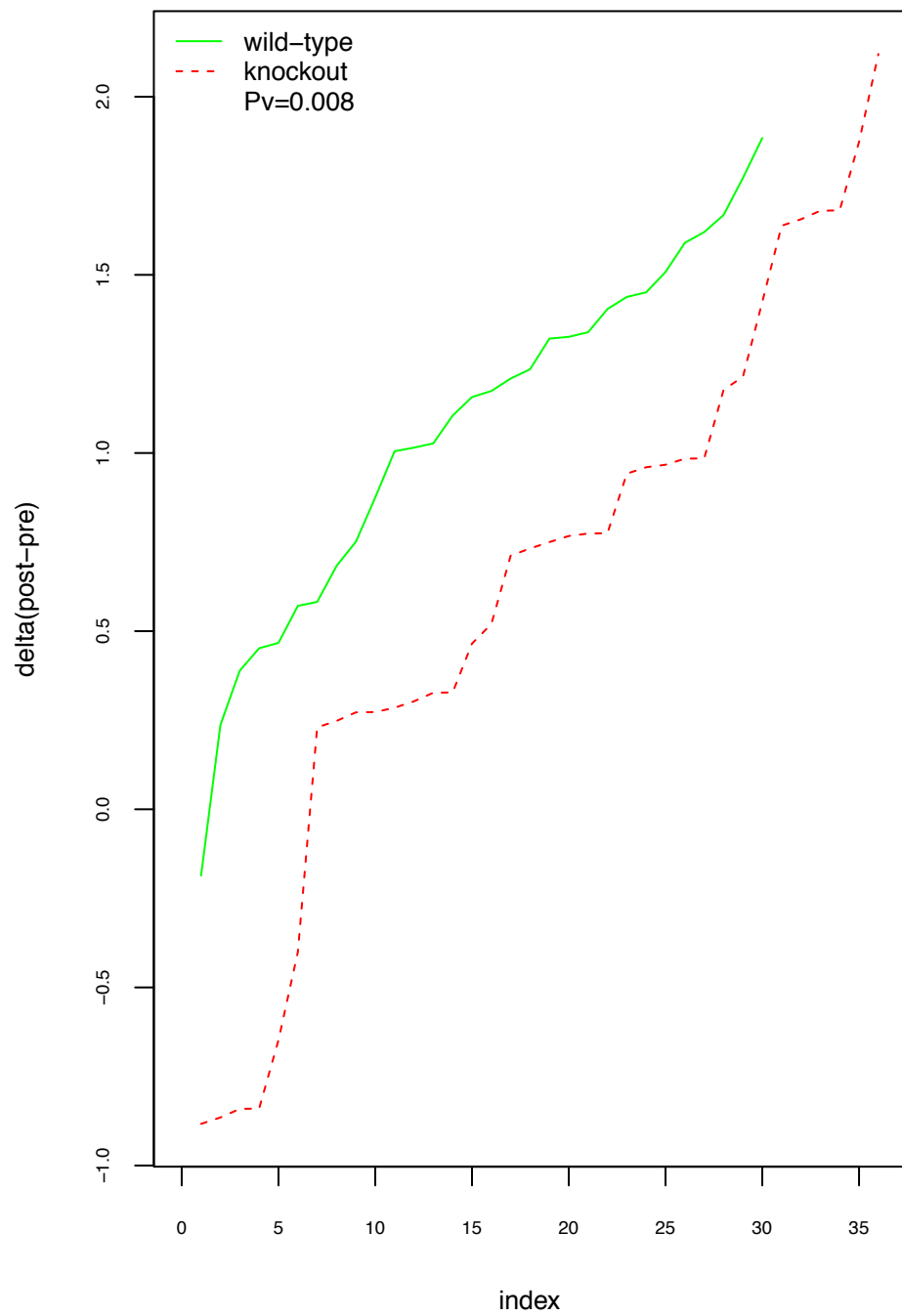
Bmp5



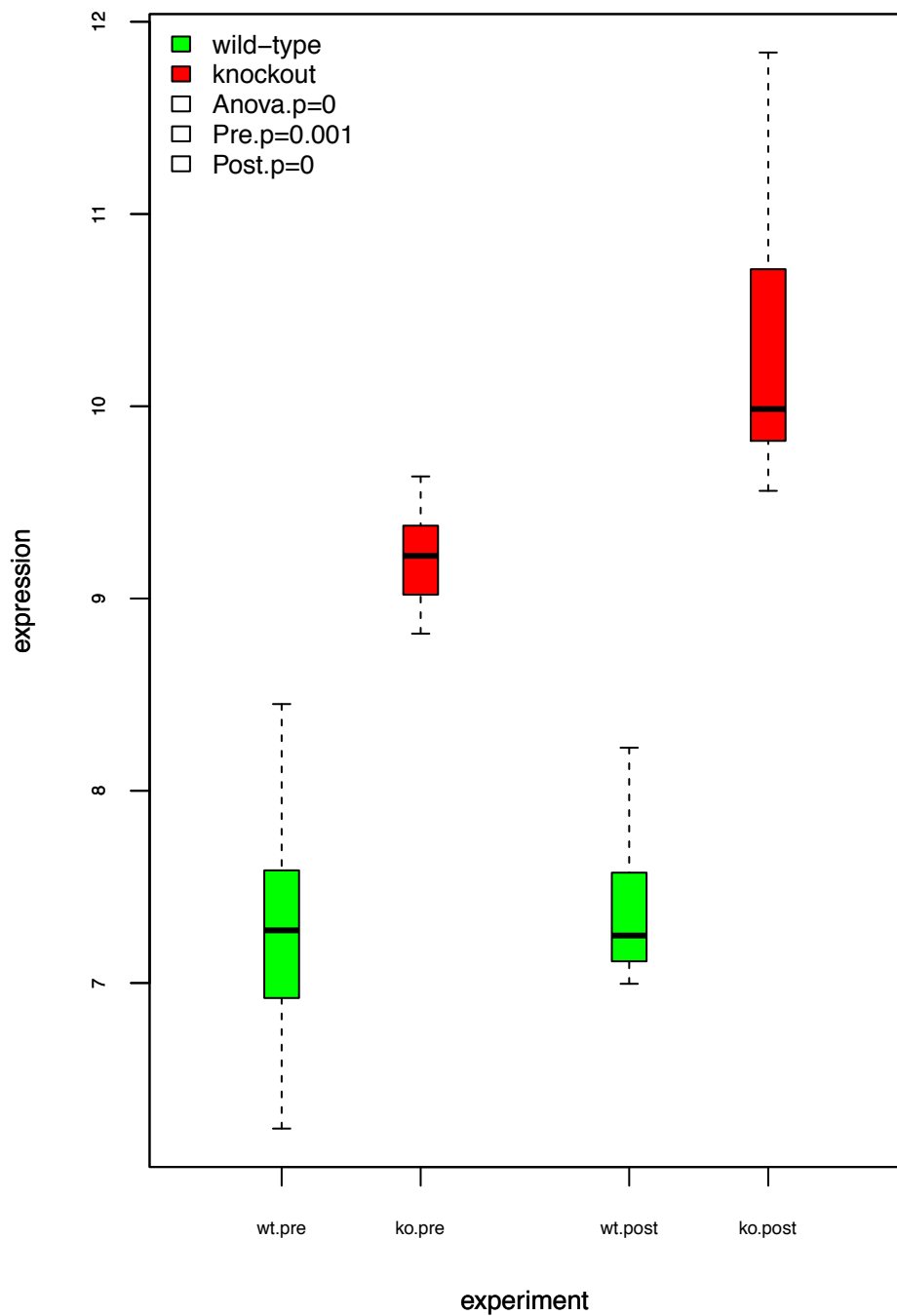
Bmp4



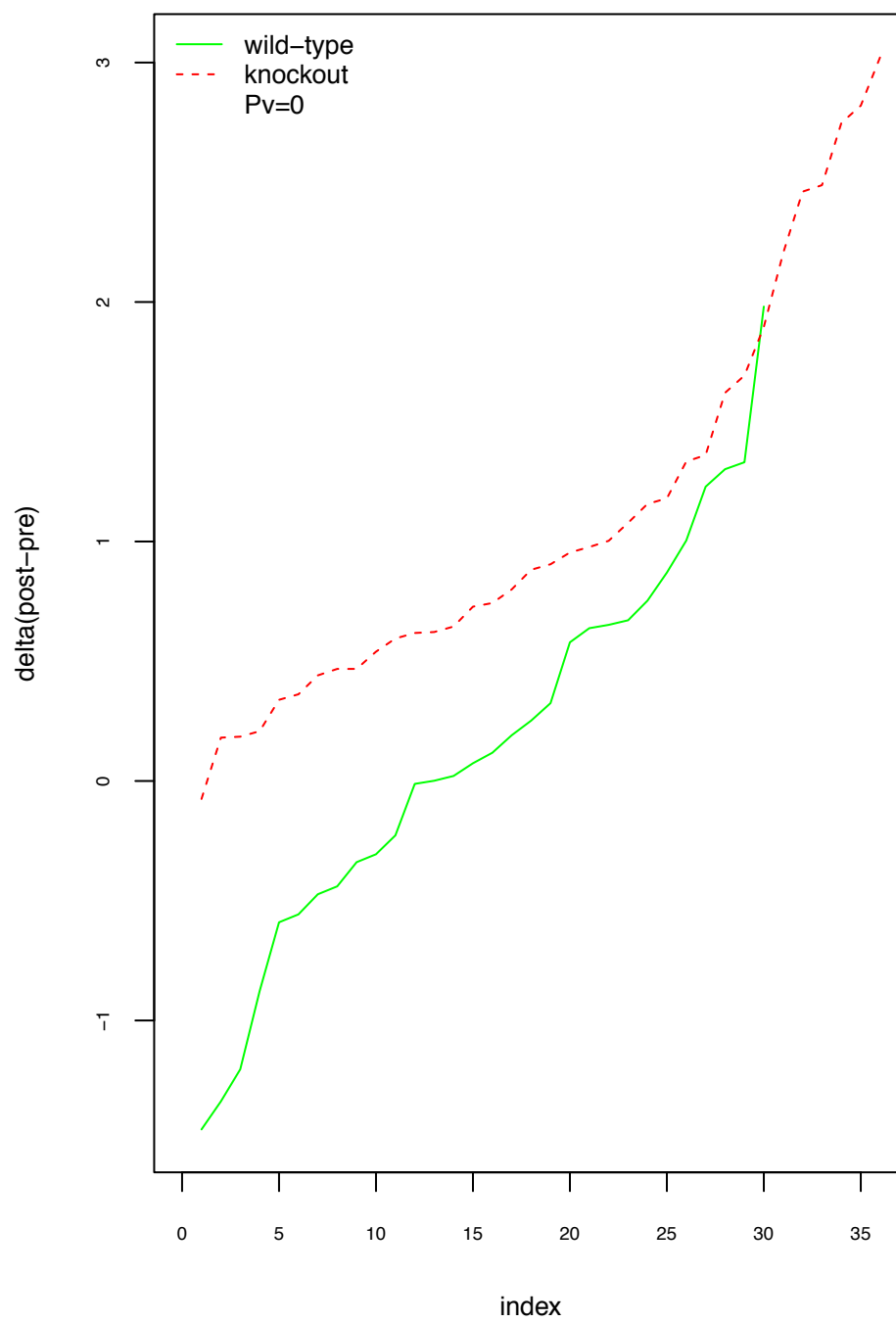
Bmp4



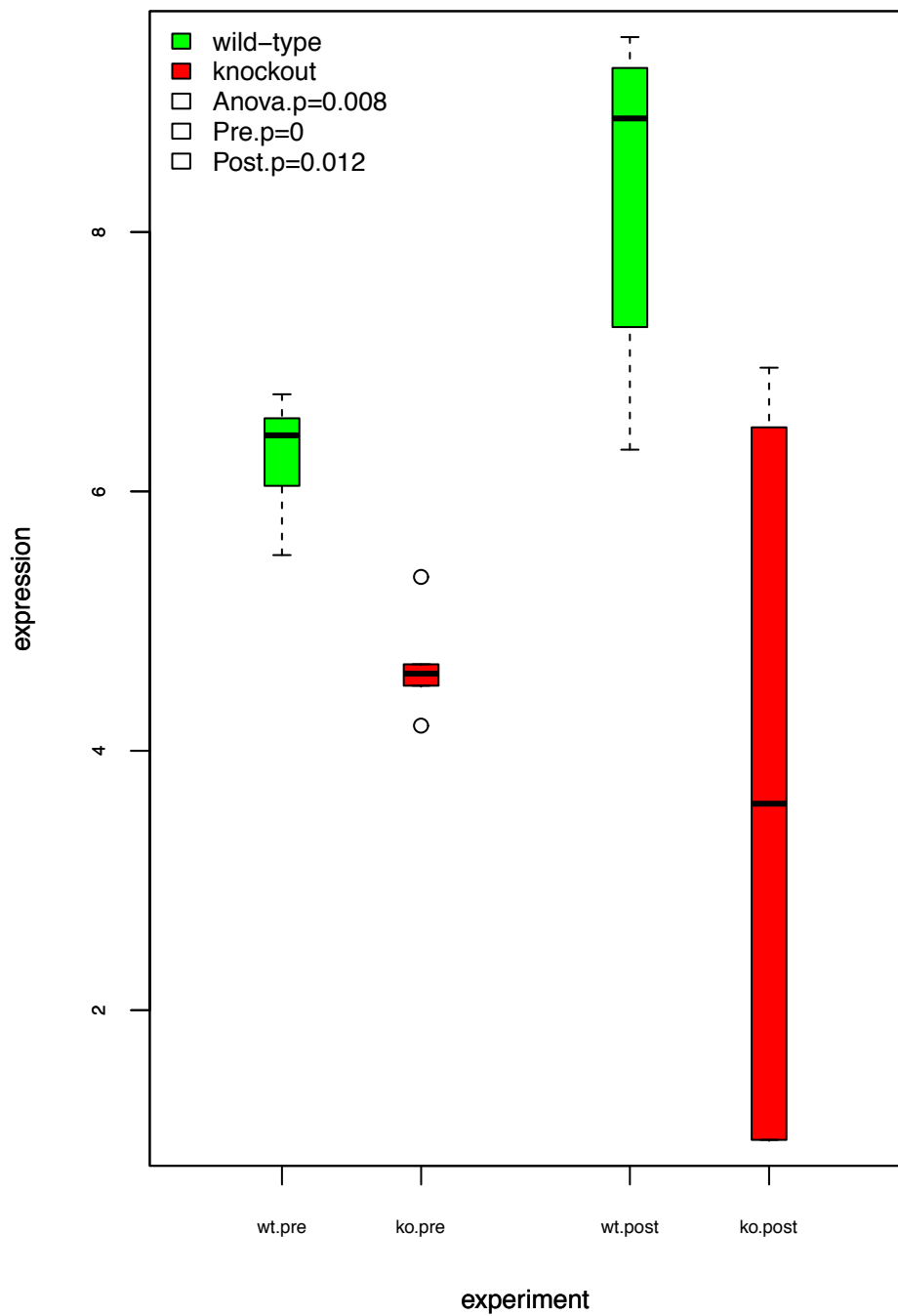
Bmp3



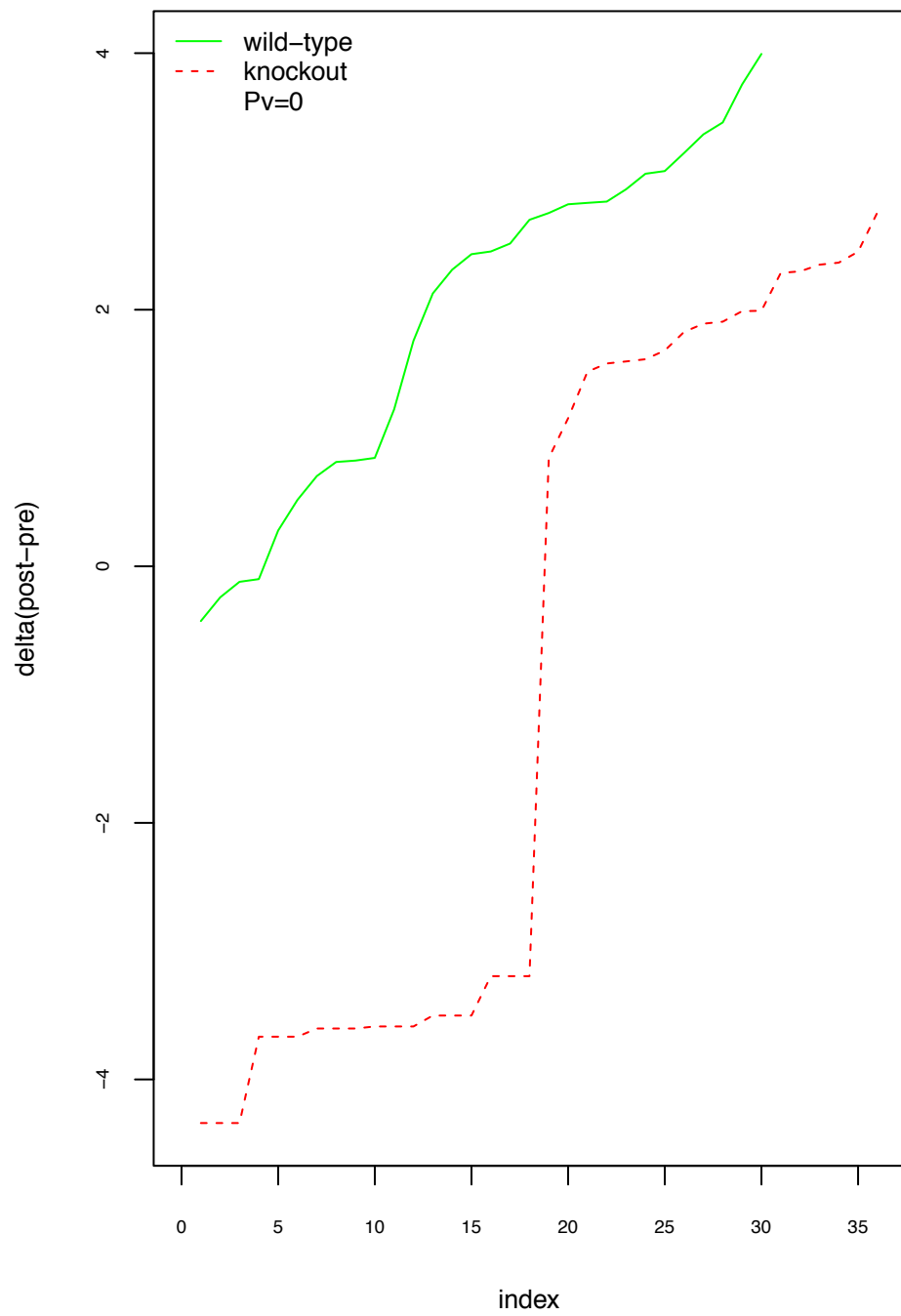
Bmp3



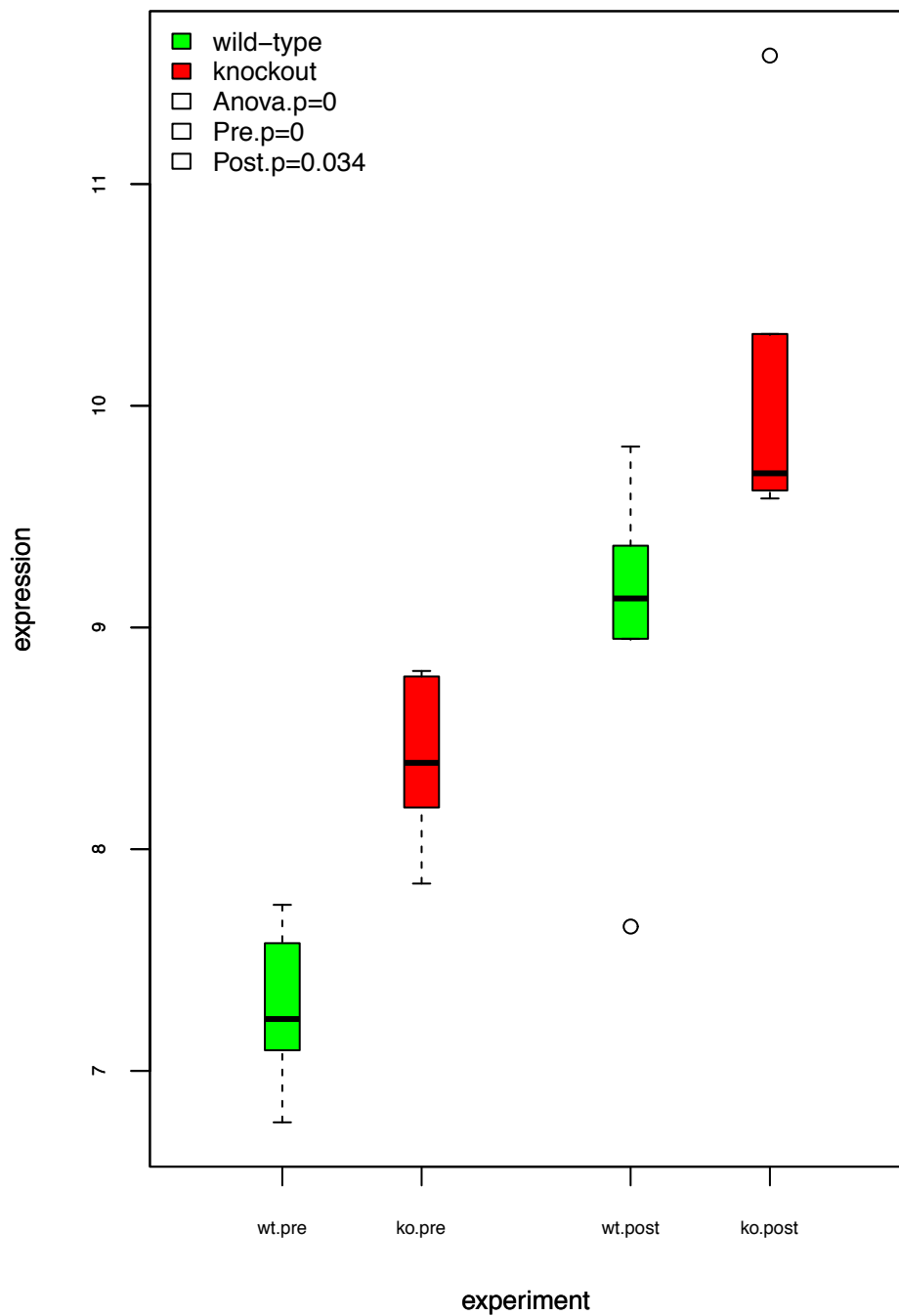
Bmp2



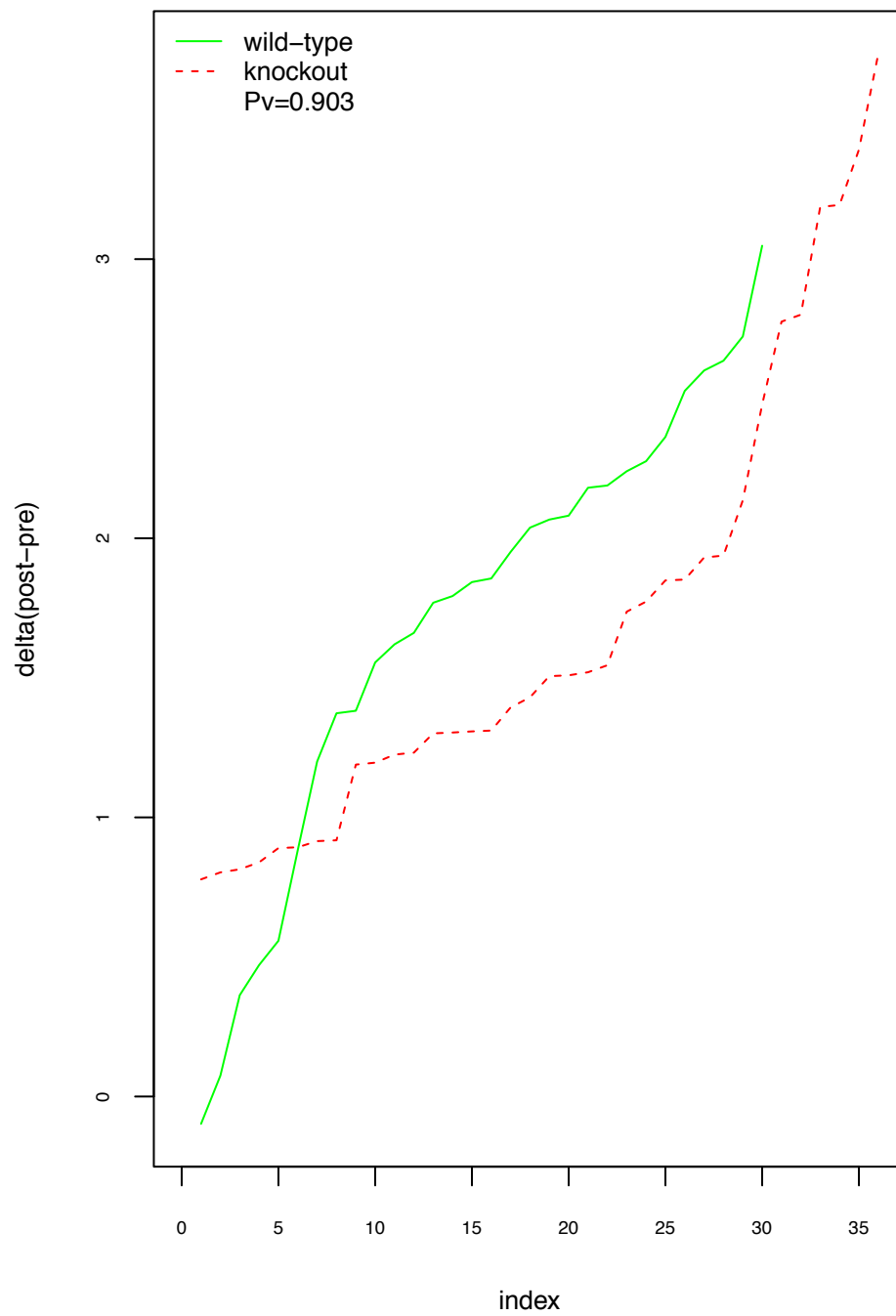
Bmp2



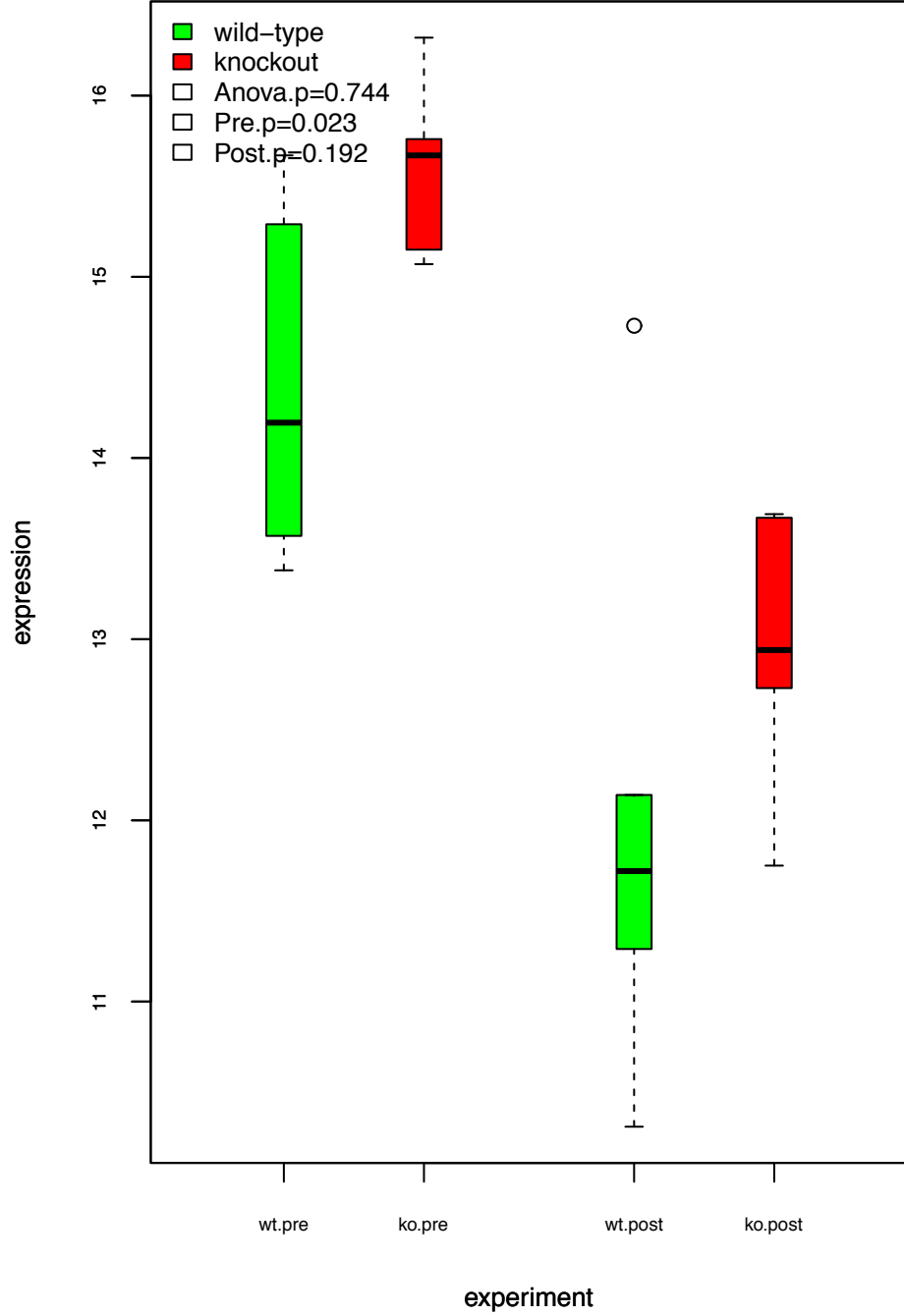
Bmp1



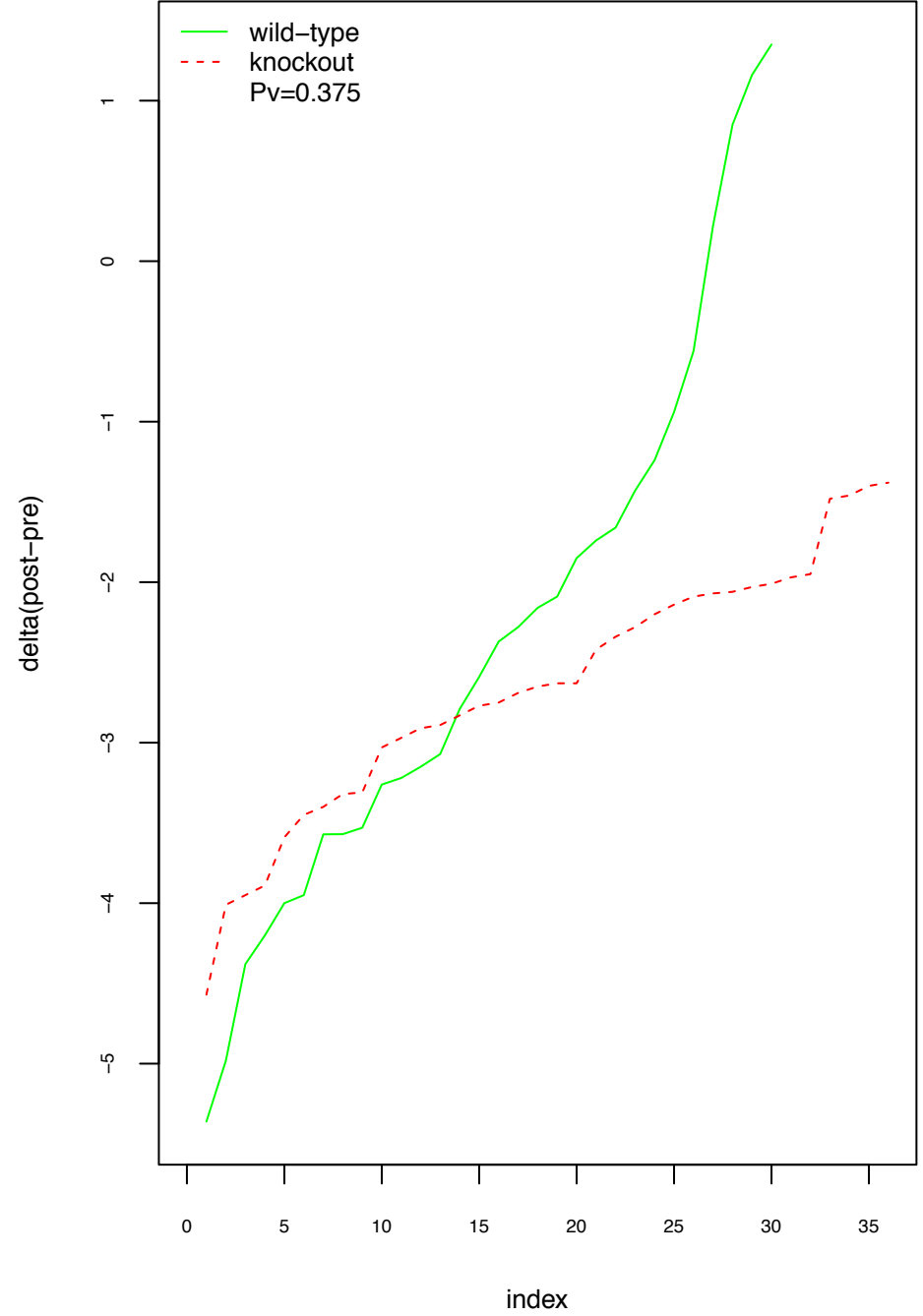
Bmp1



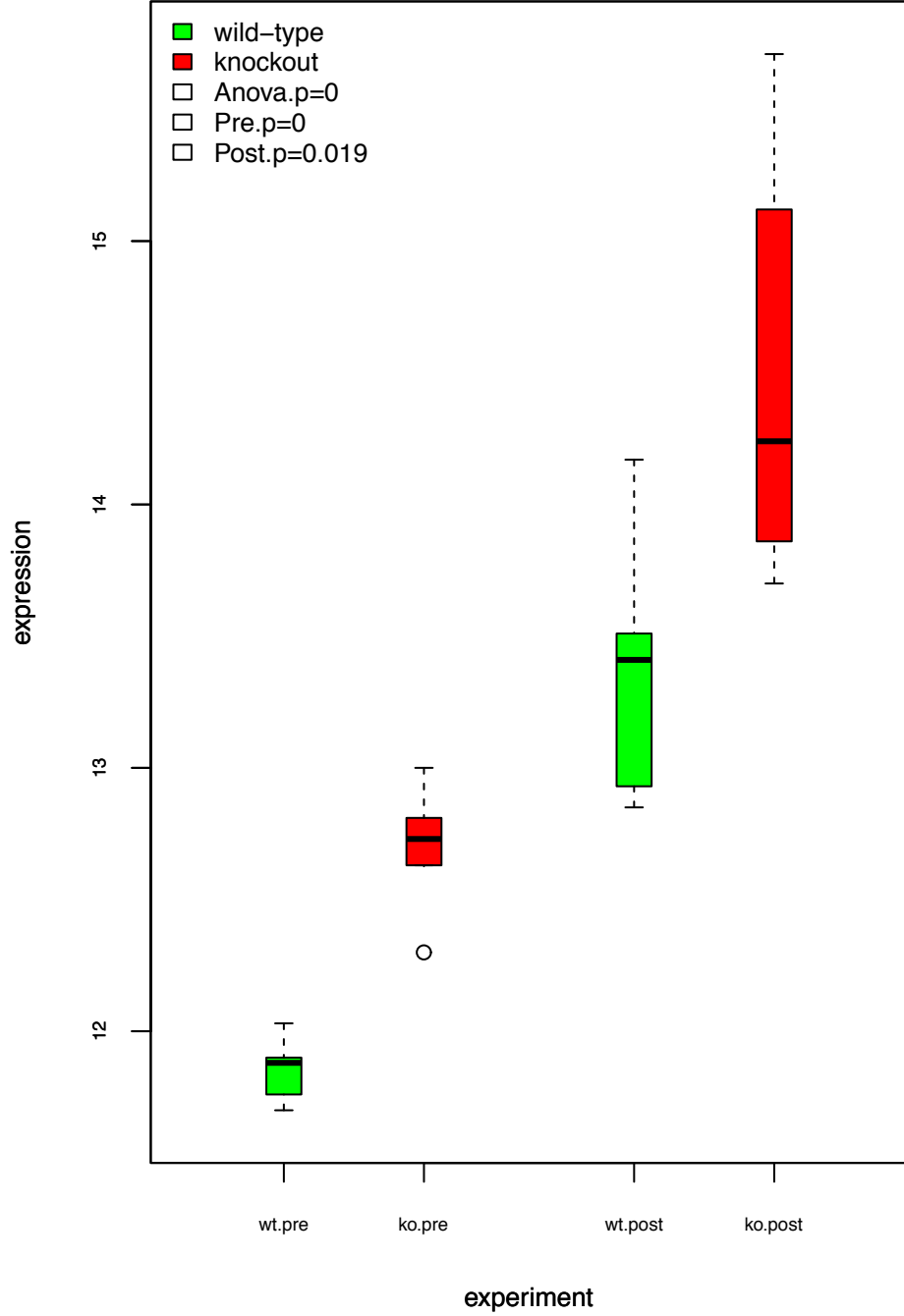
Bglap2



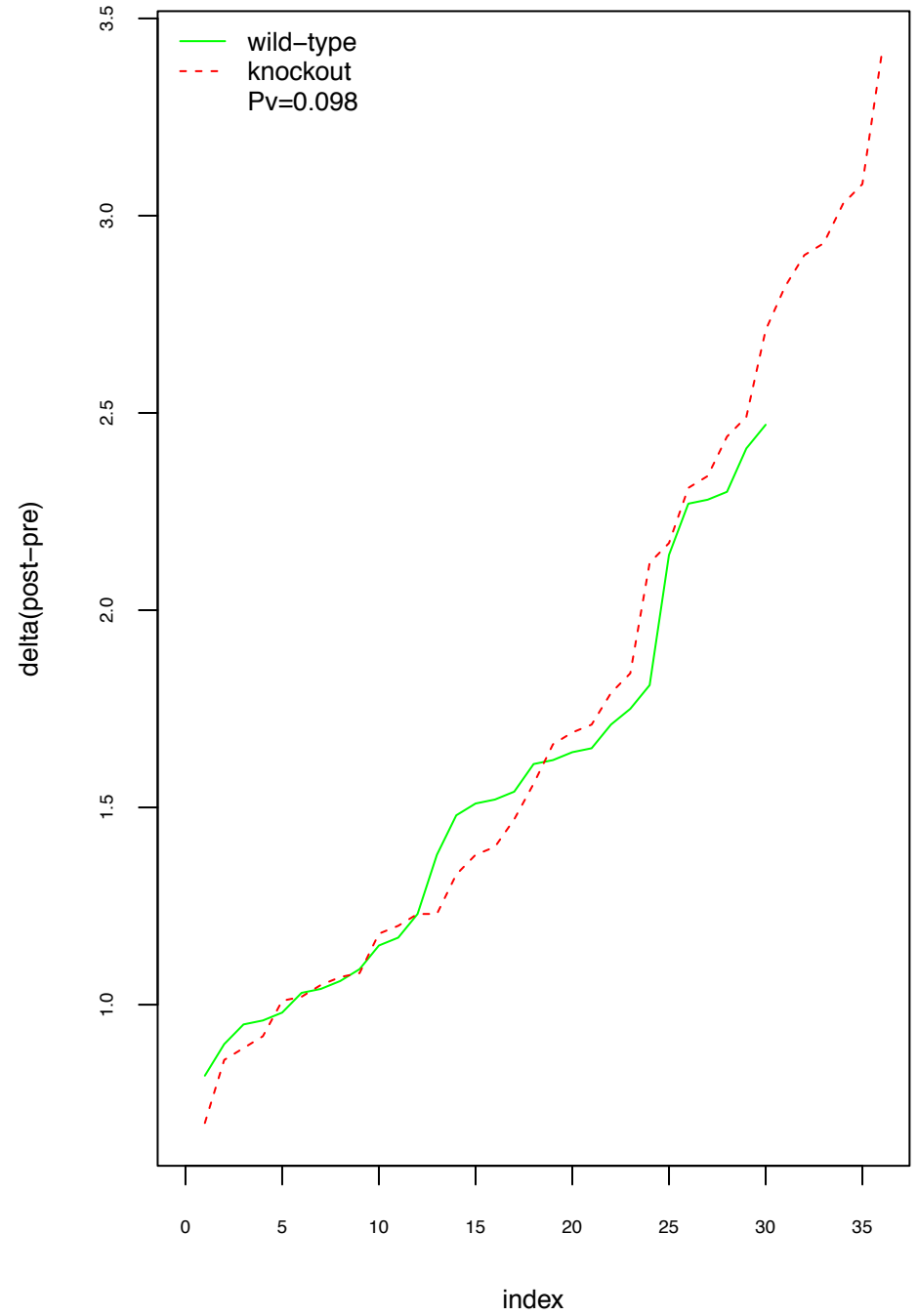
Bglap2



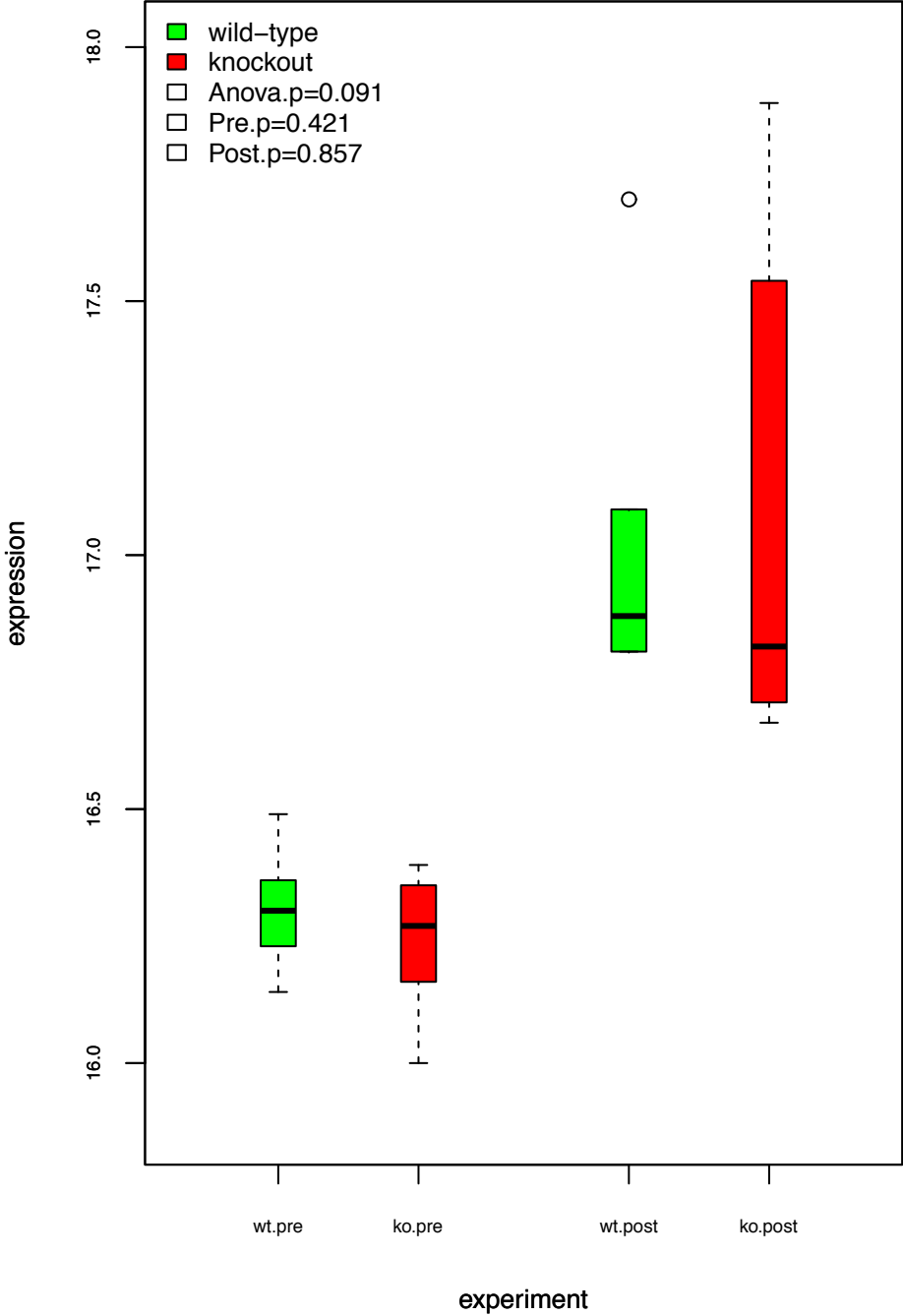
beta-cat(Ctnnb1)



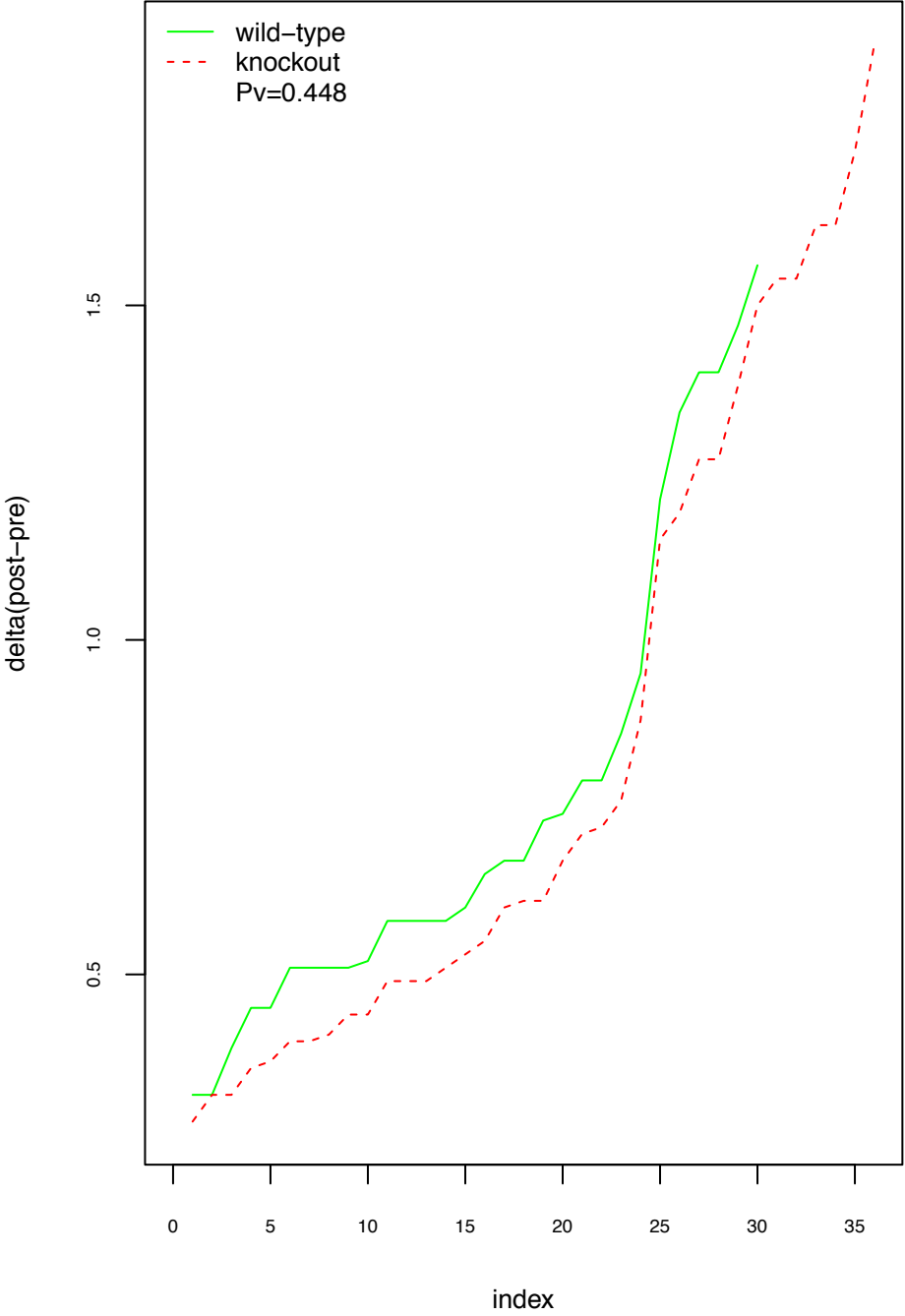
beta-cat(Ctnnb1)



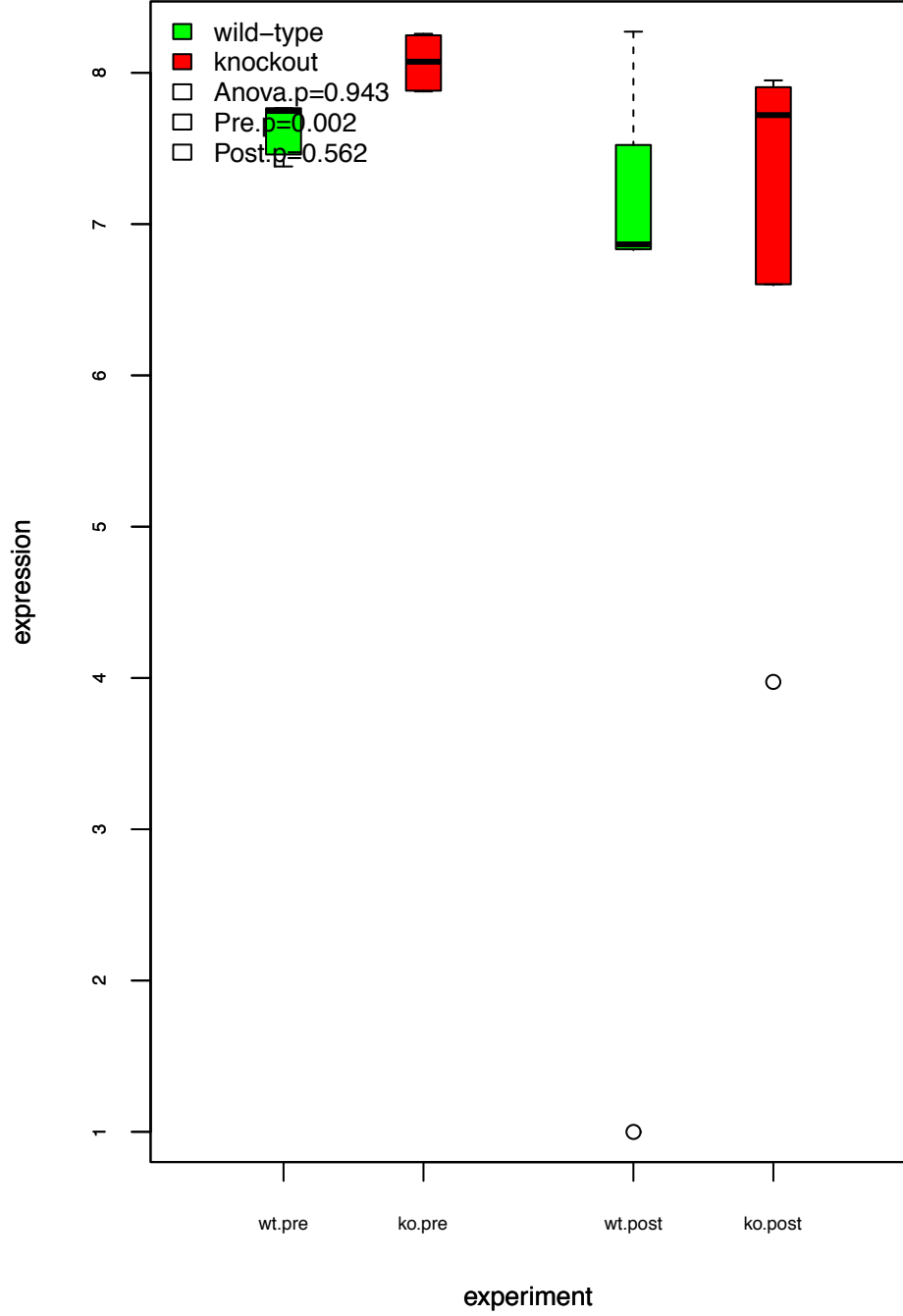
Beta-actin



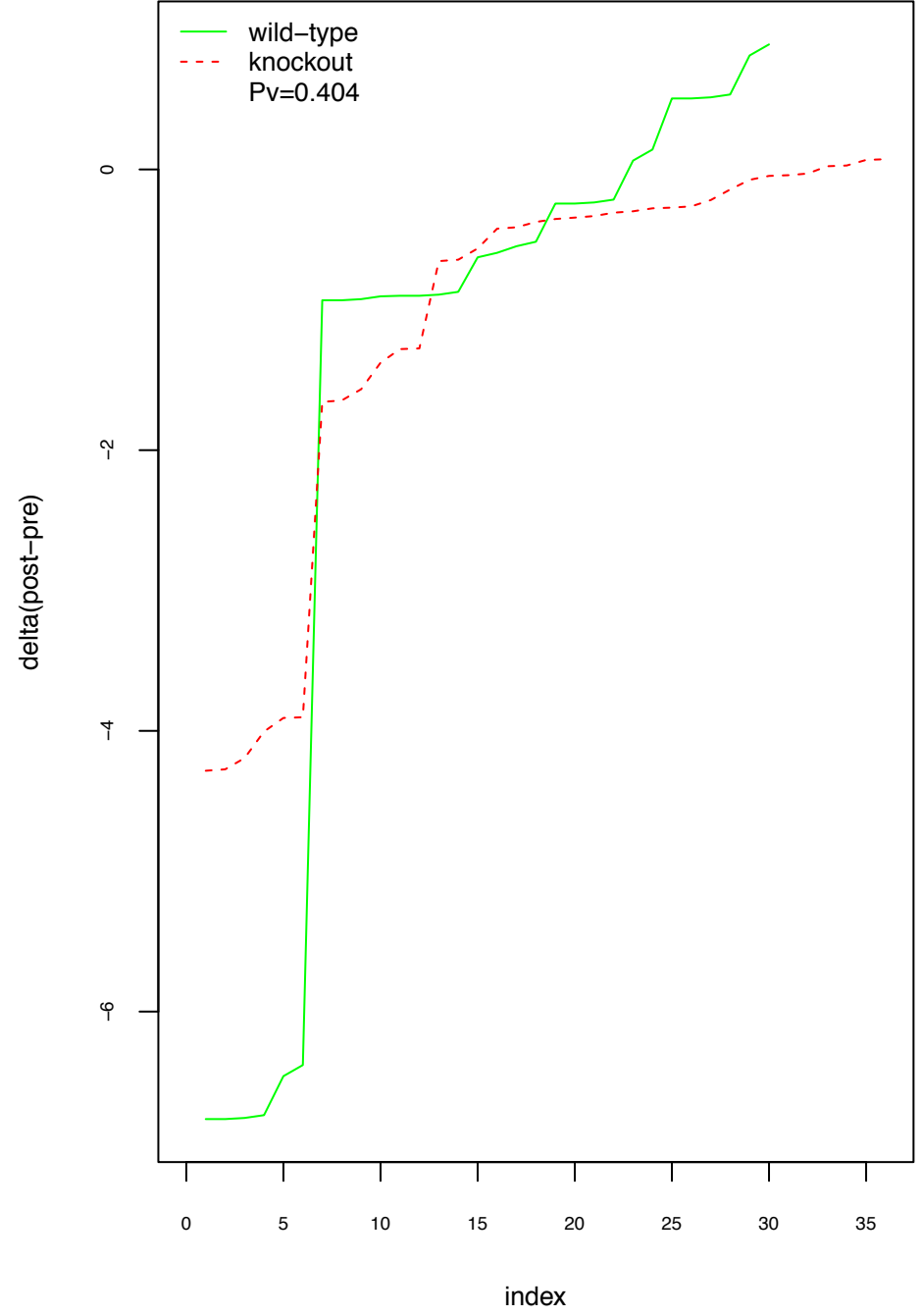
Beta-actin



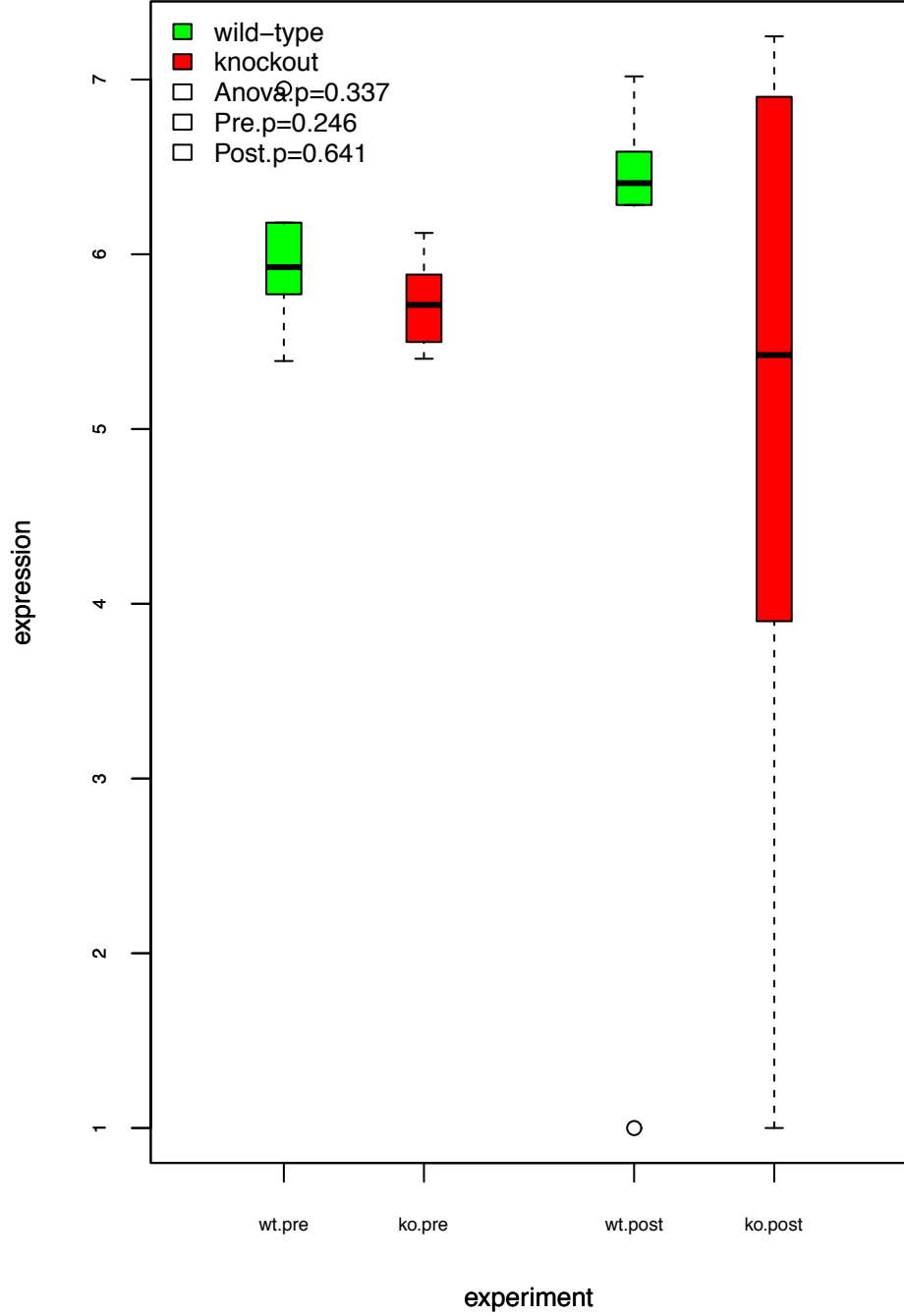
Bcl2



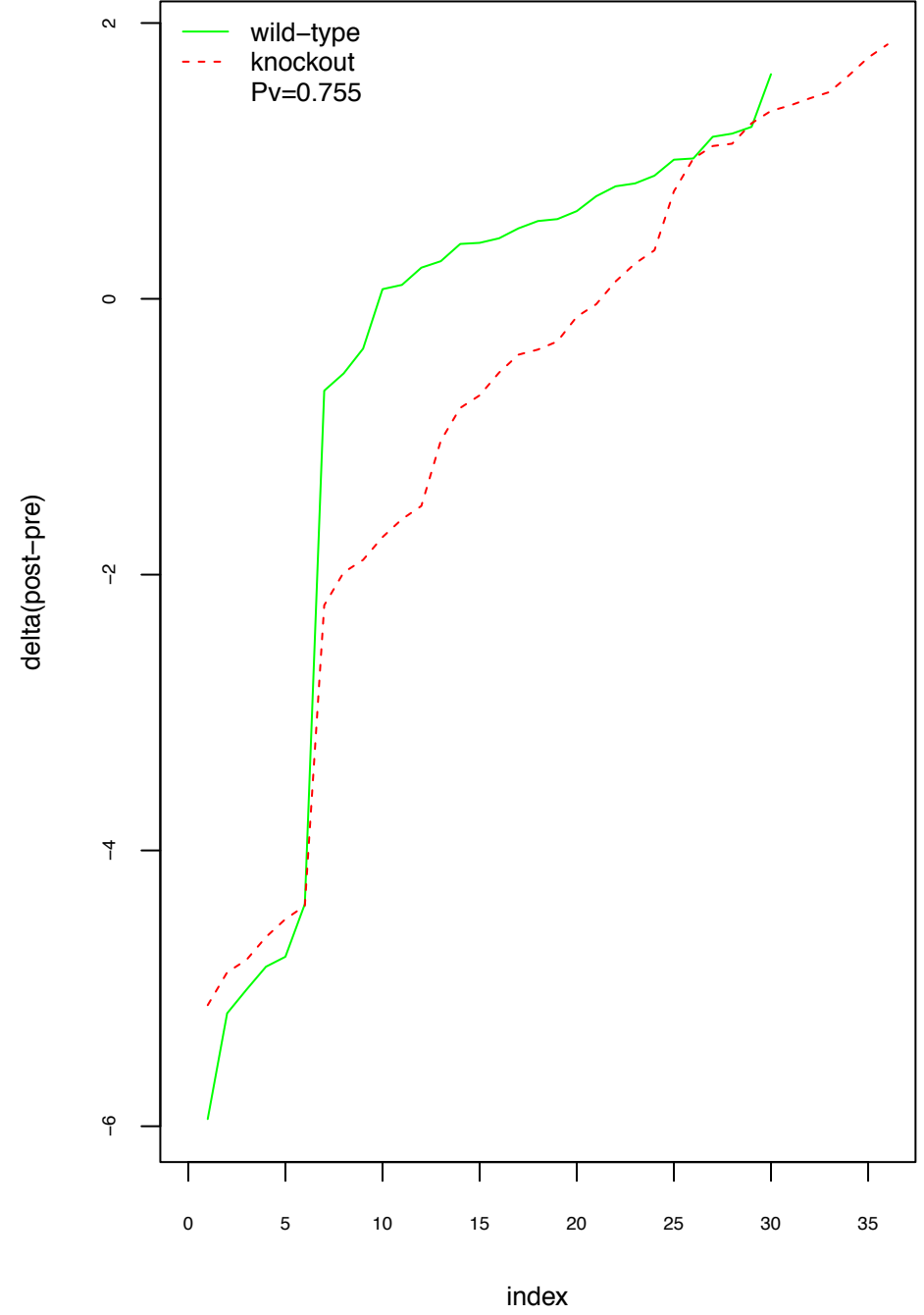
Bcl2



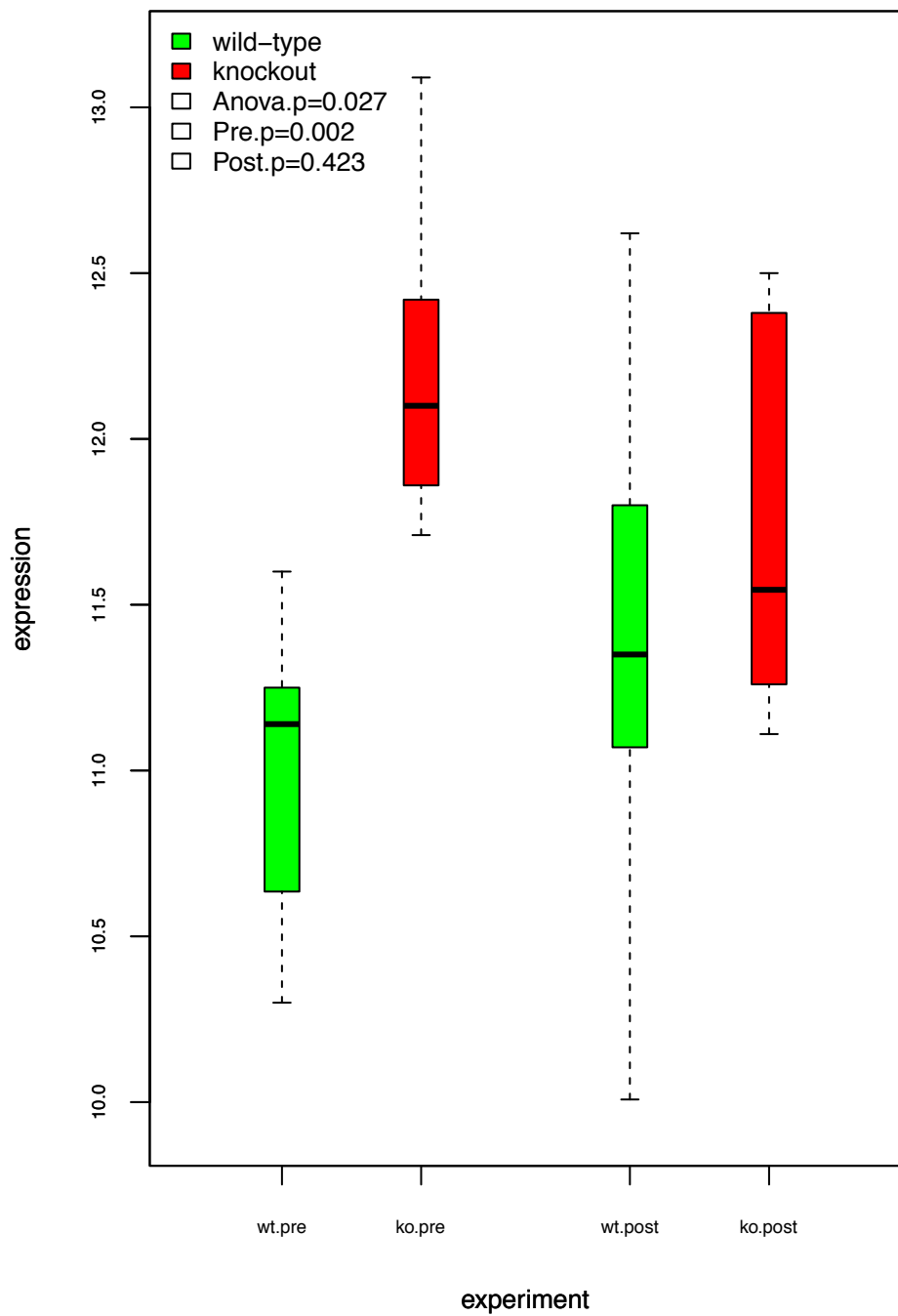
Bax



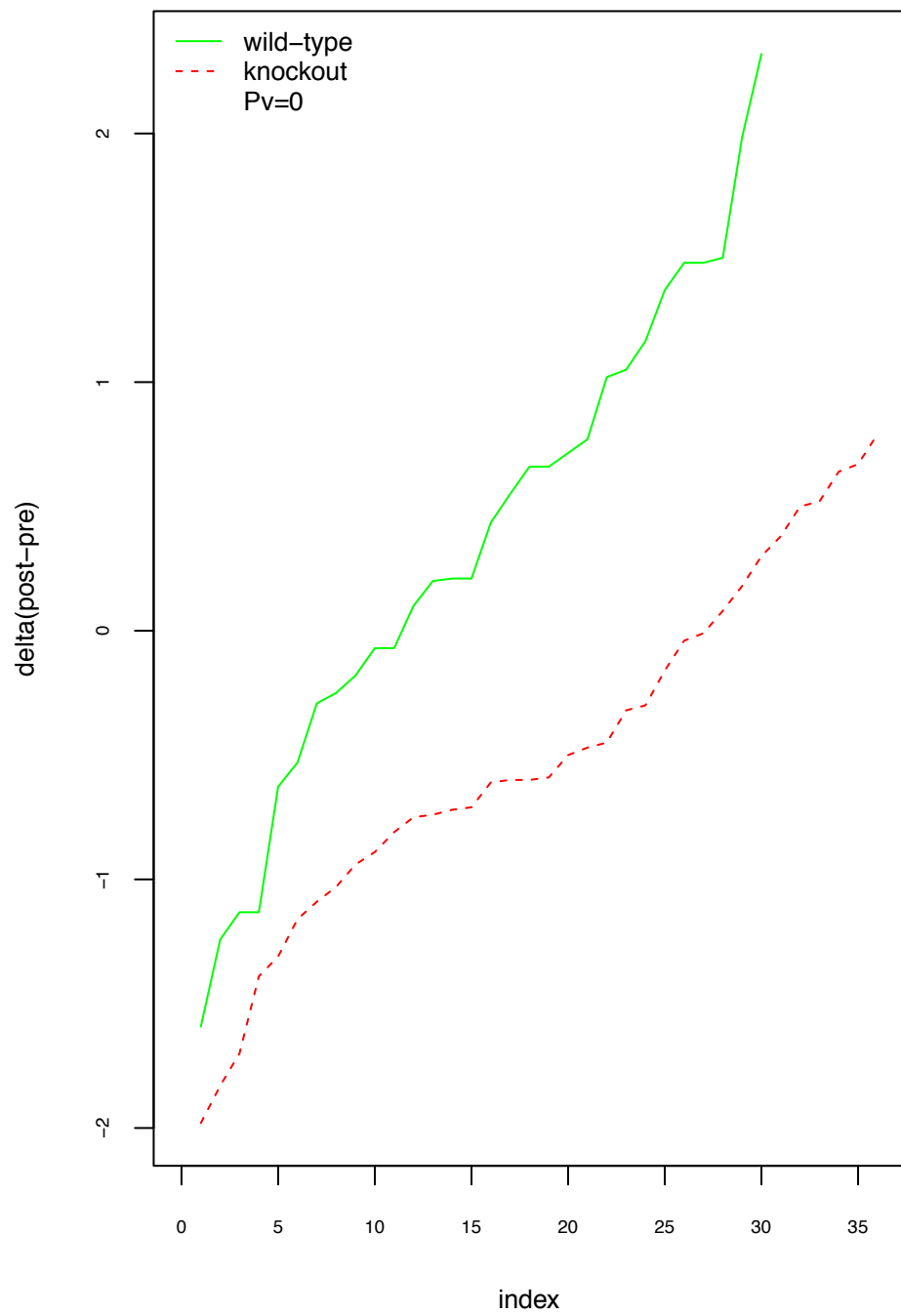
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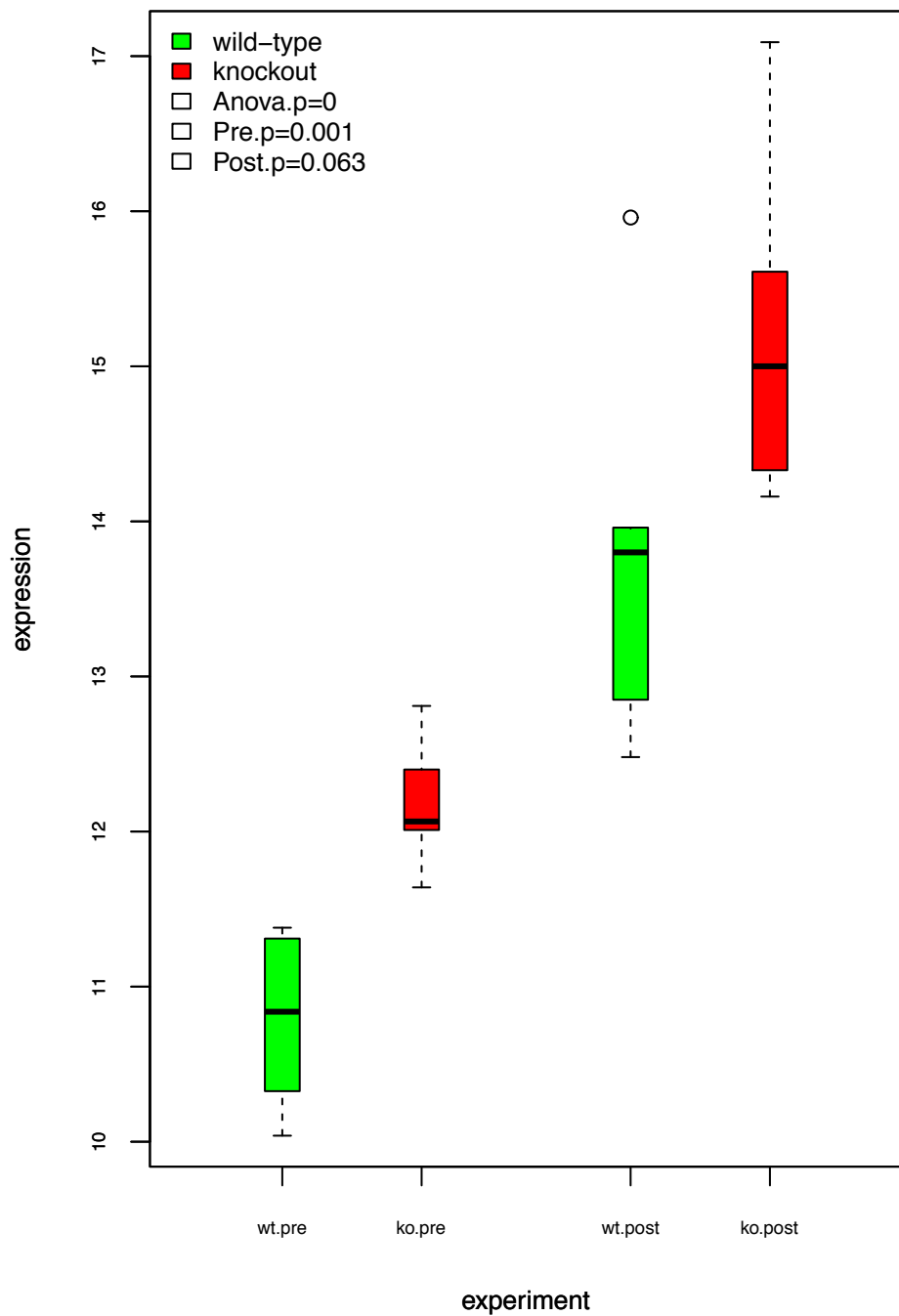
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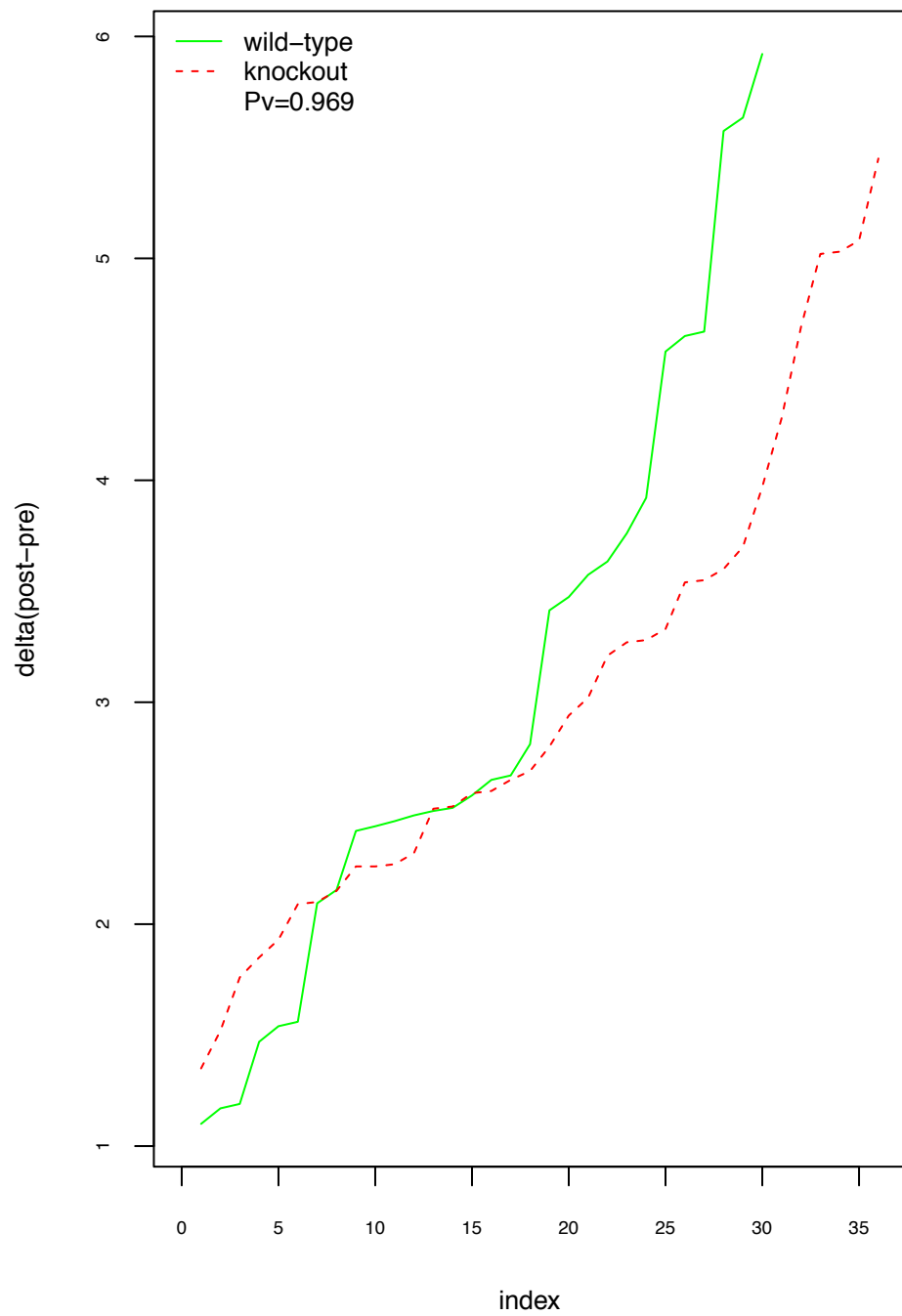
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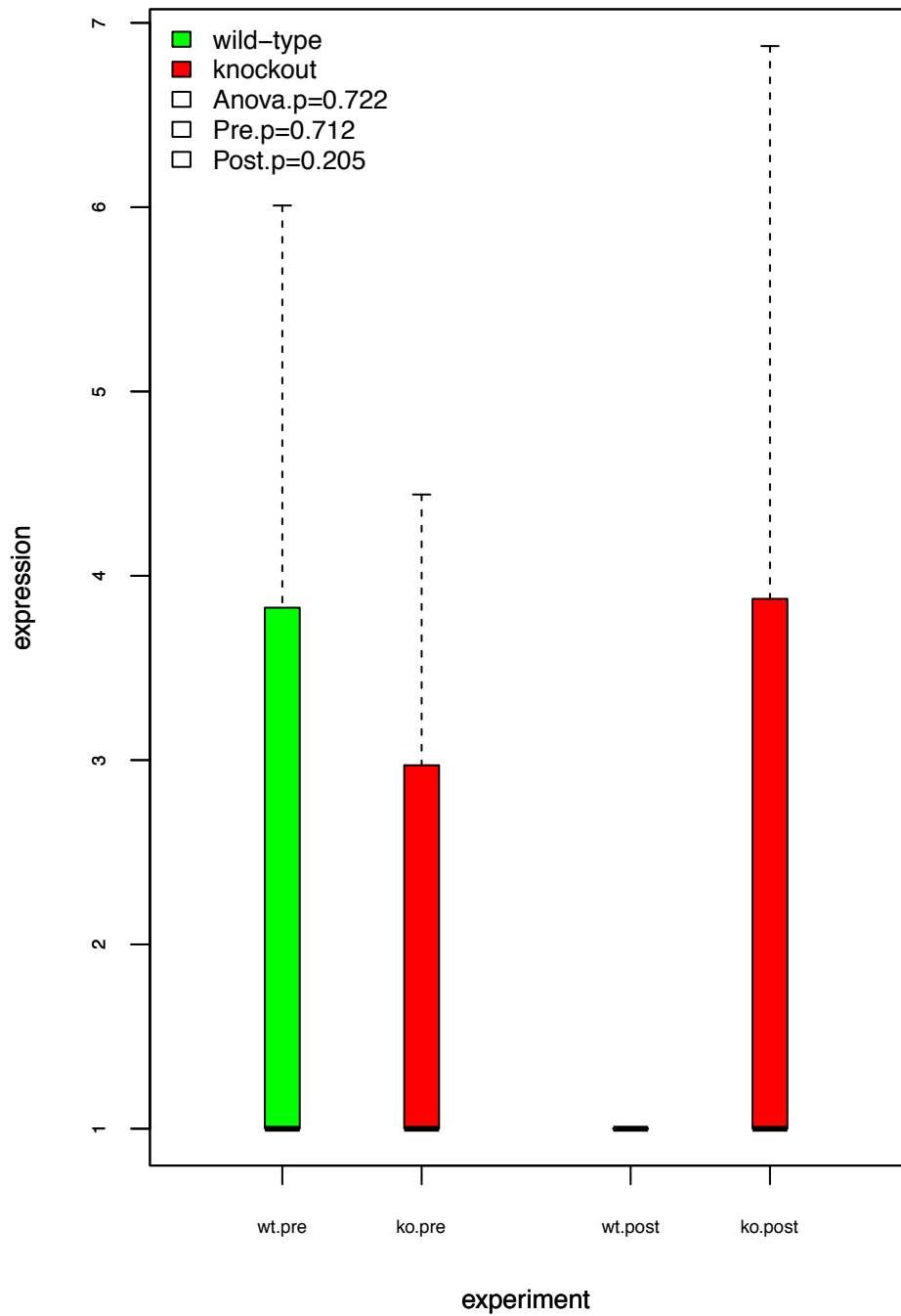
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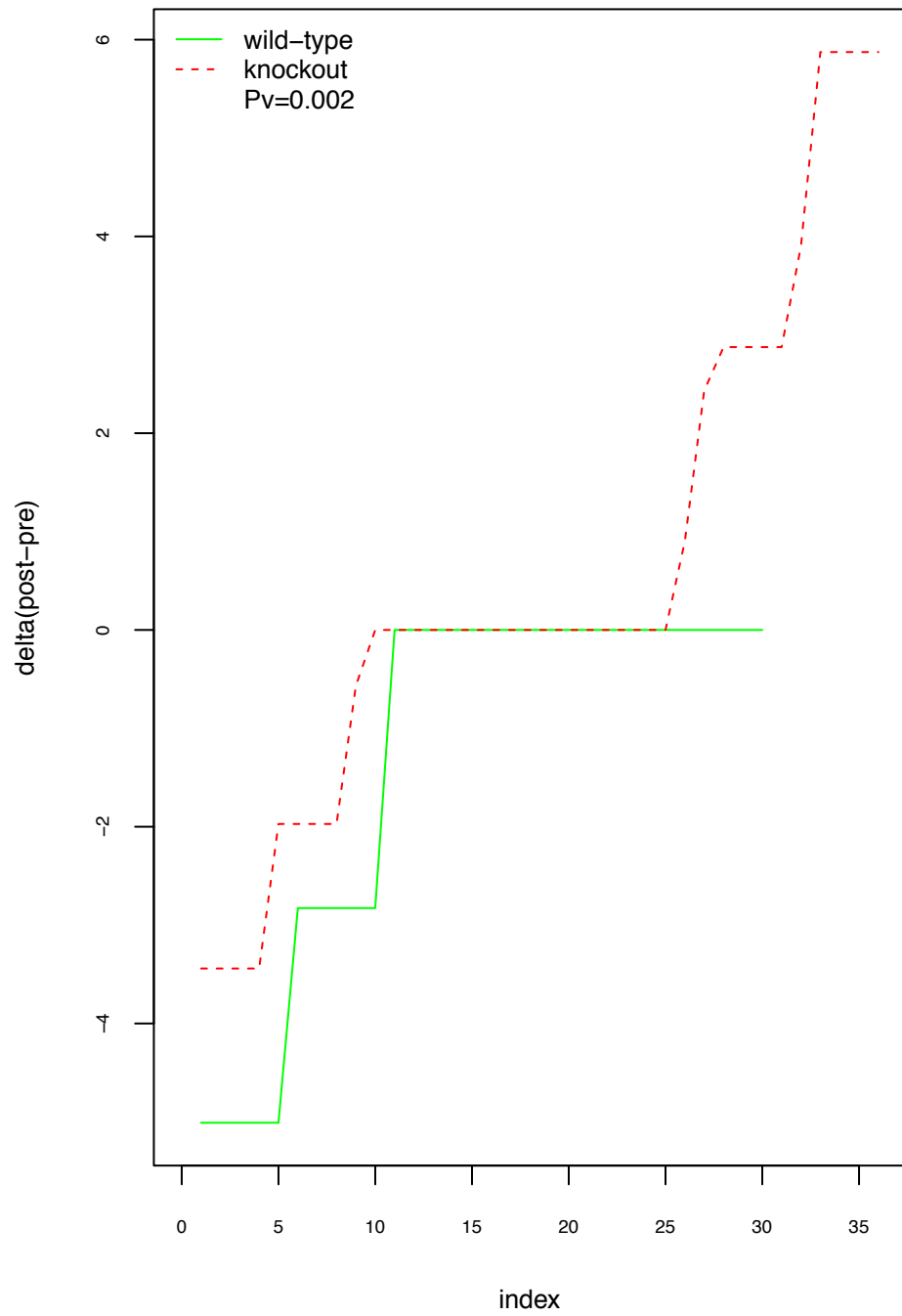
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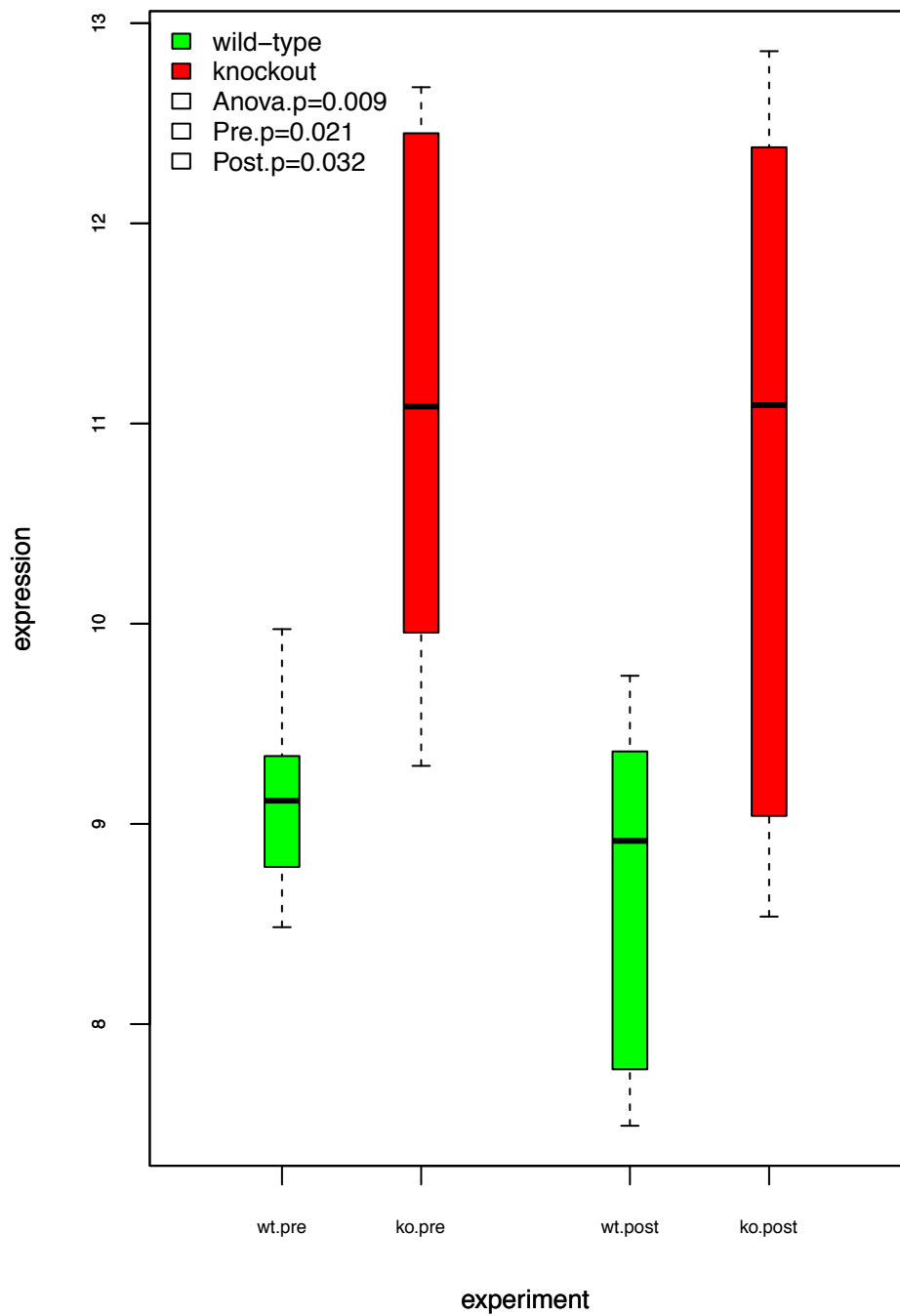
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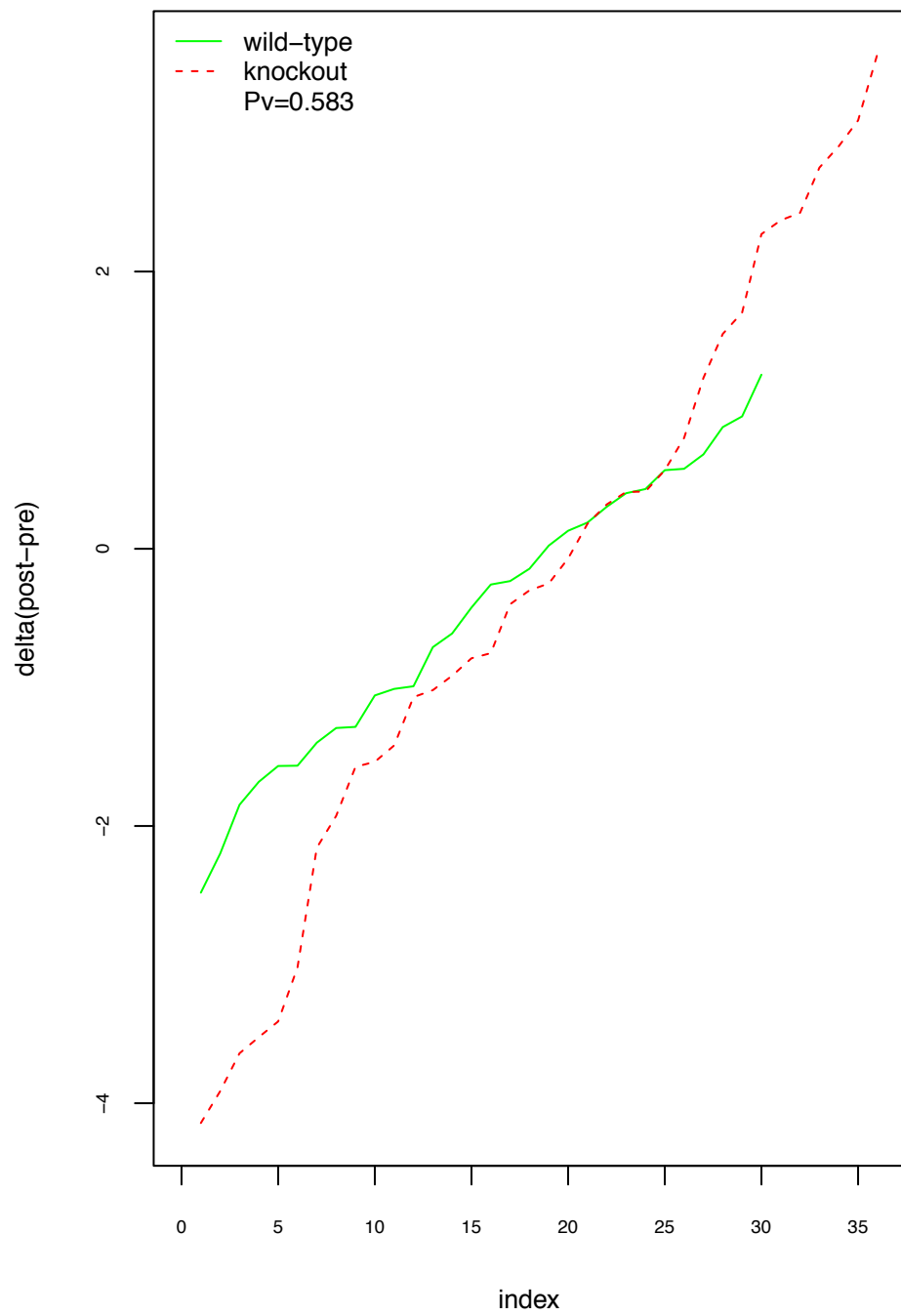
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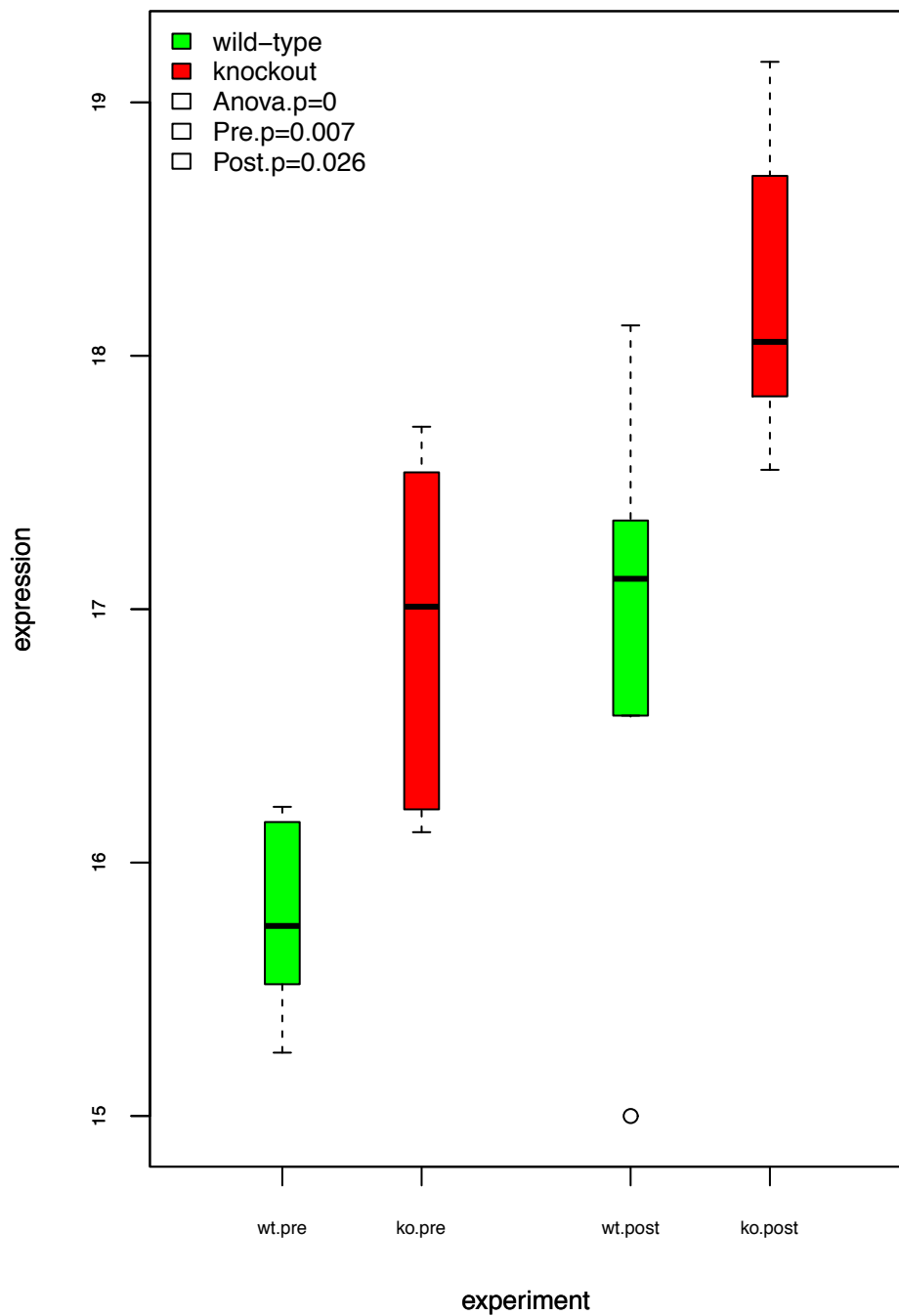
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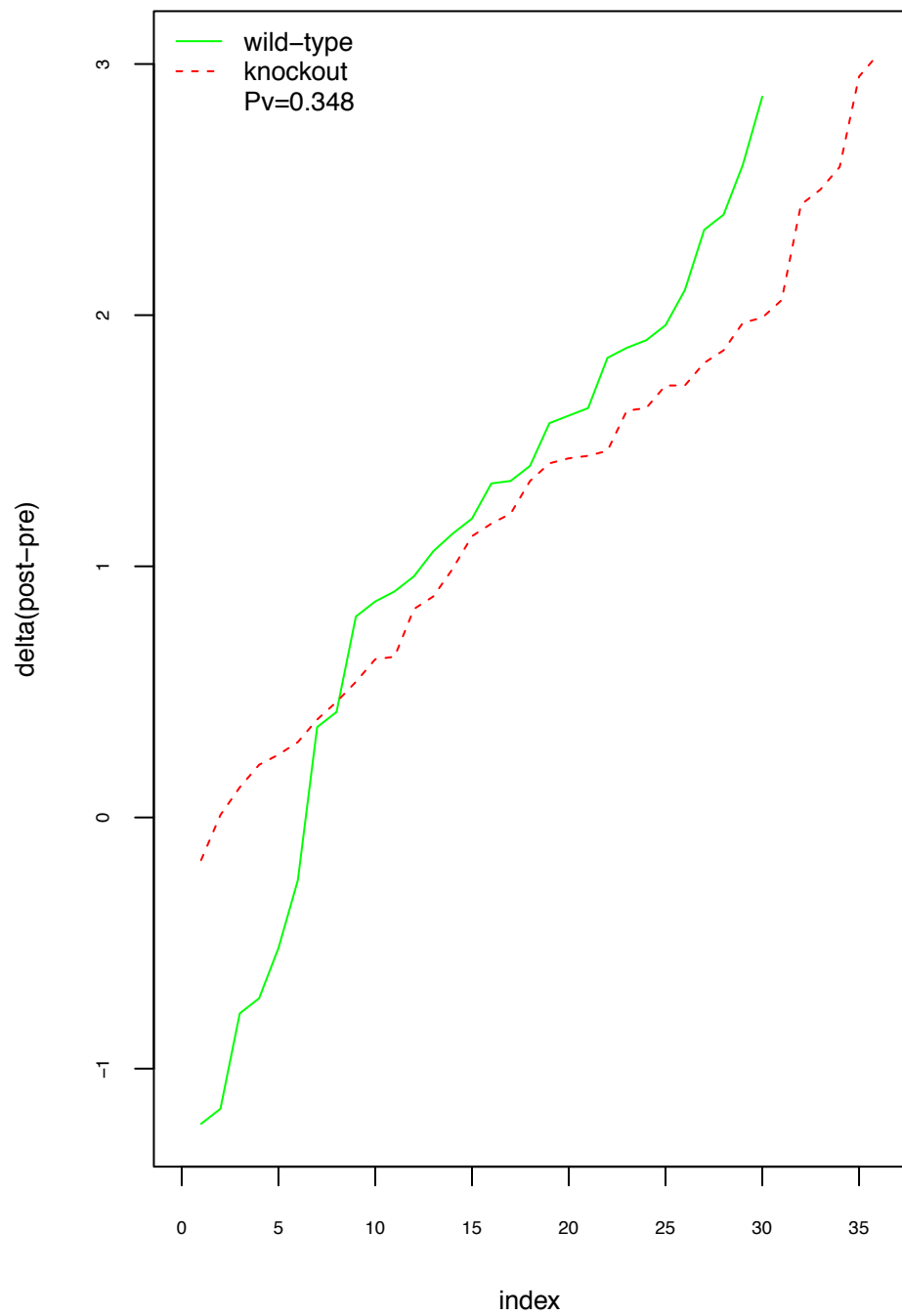
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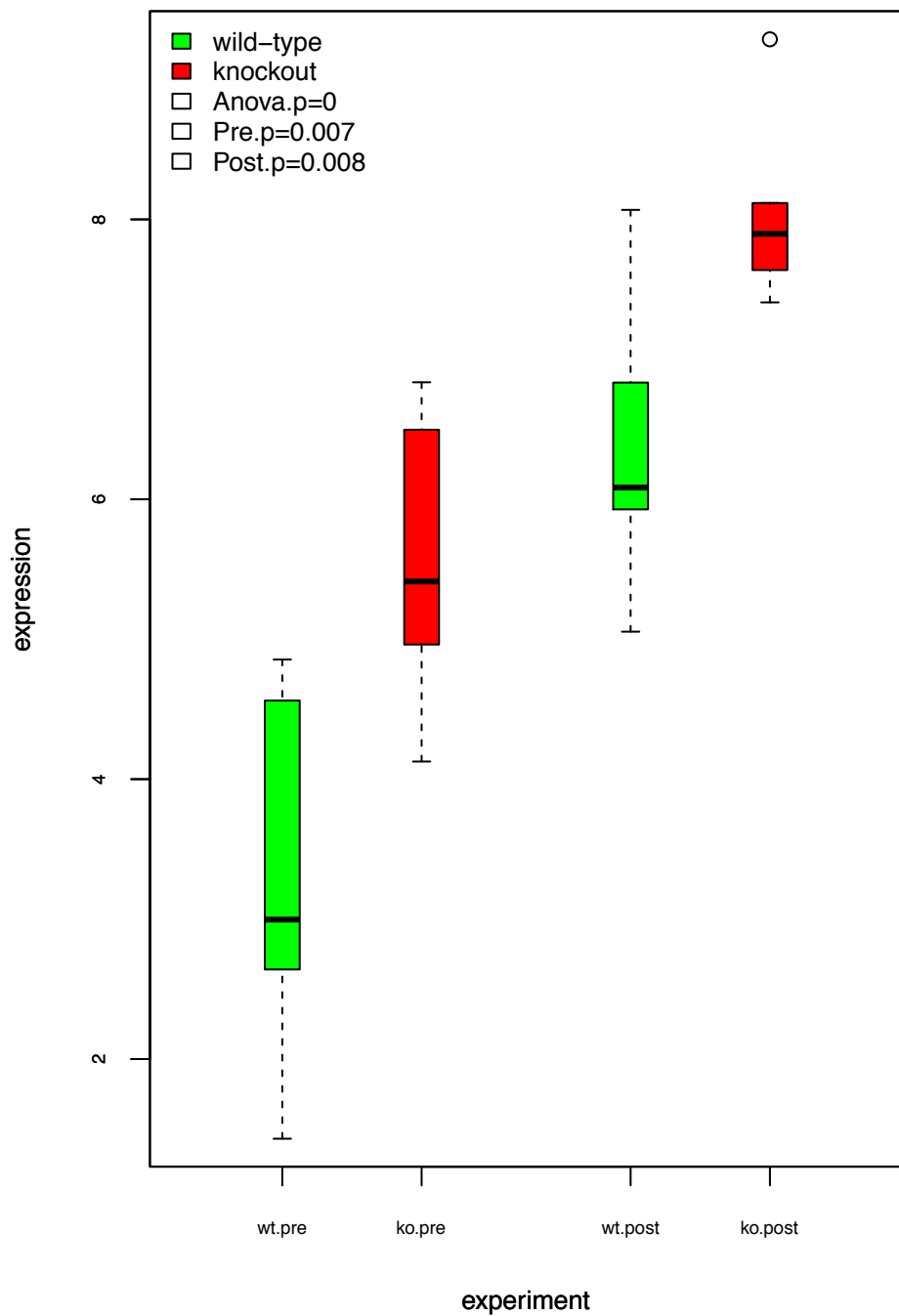
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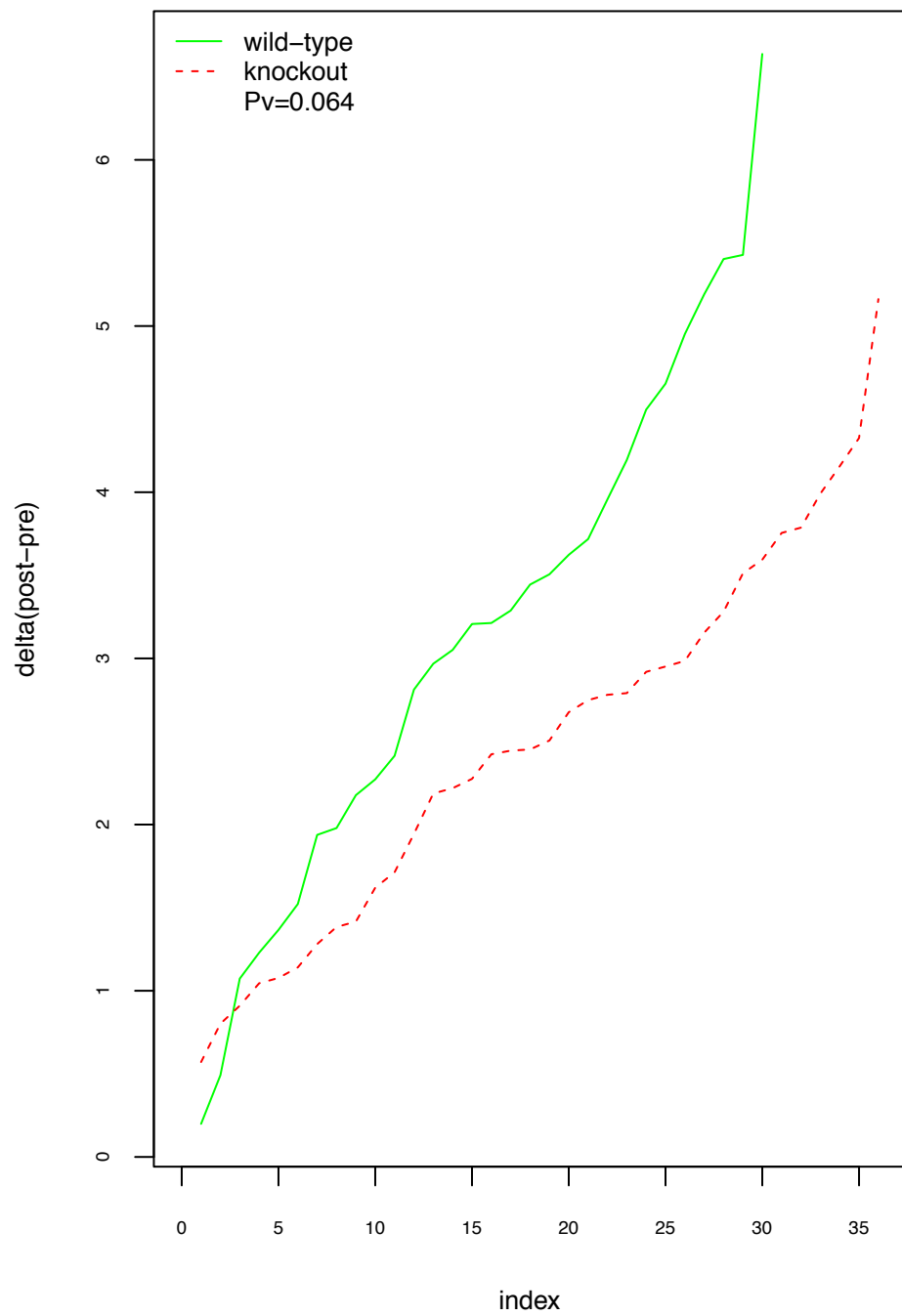
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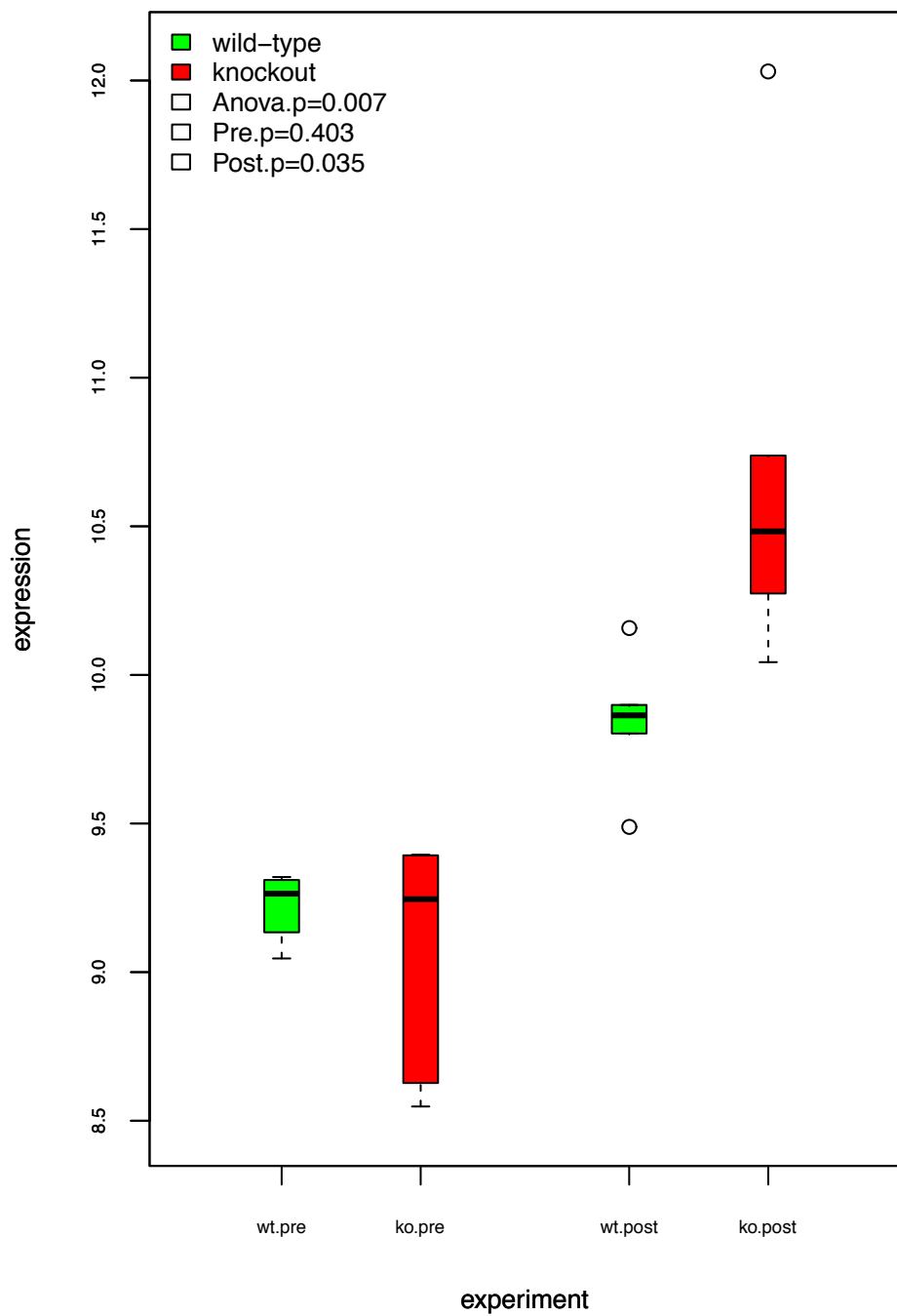
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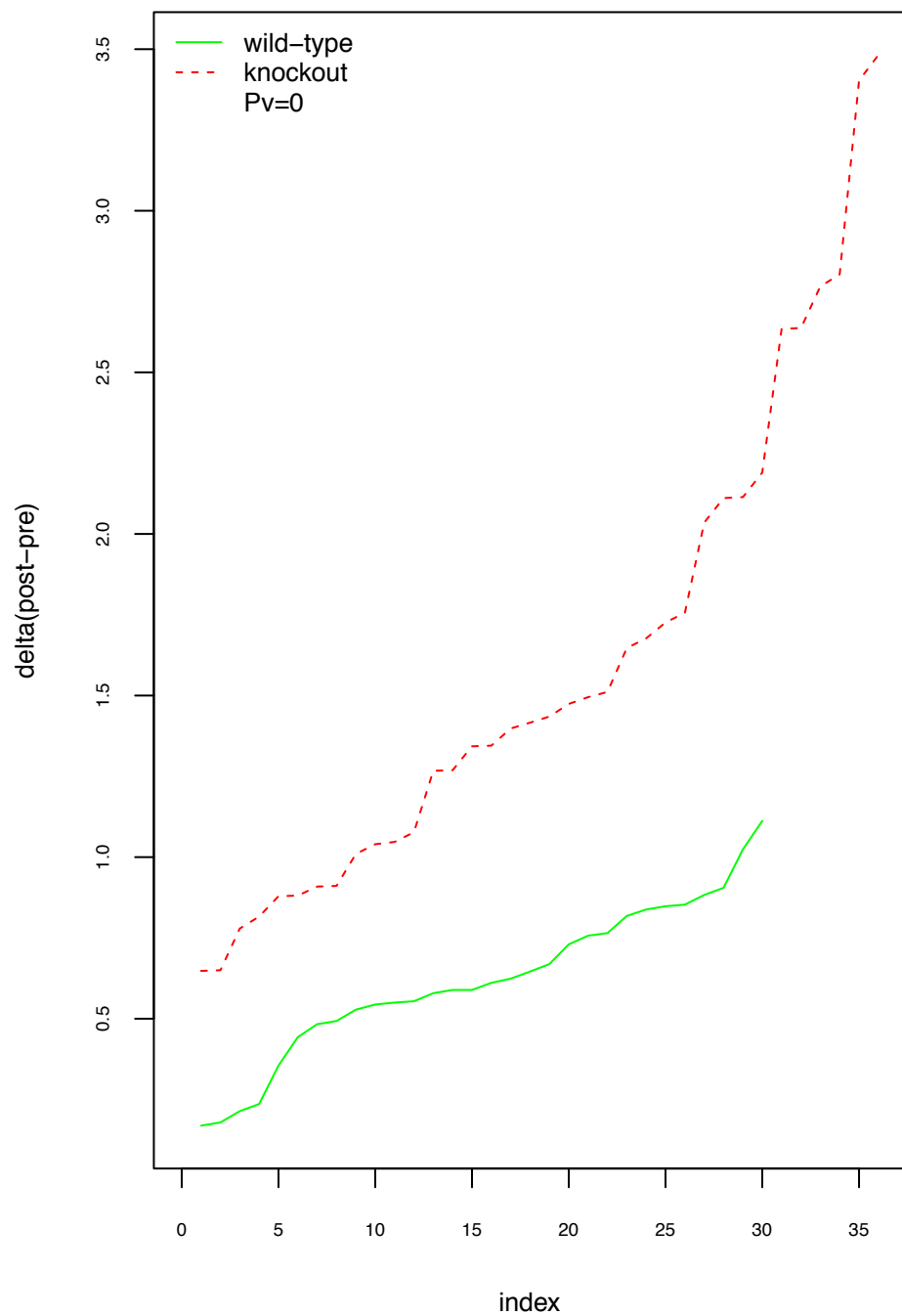
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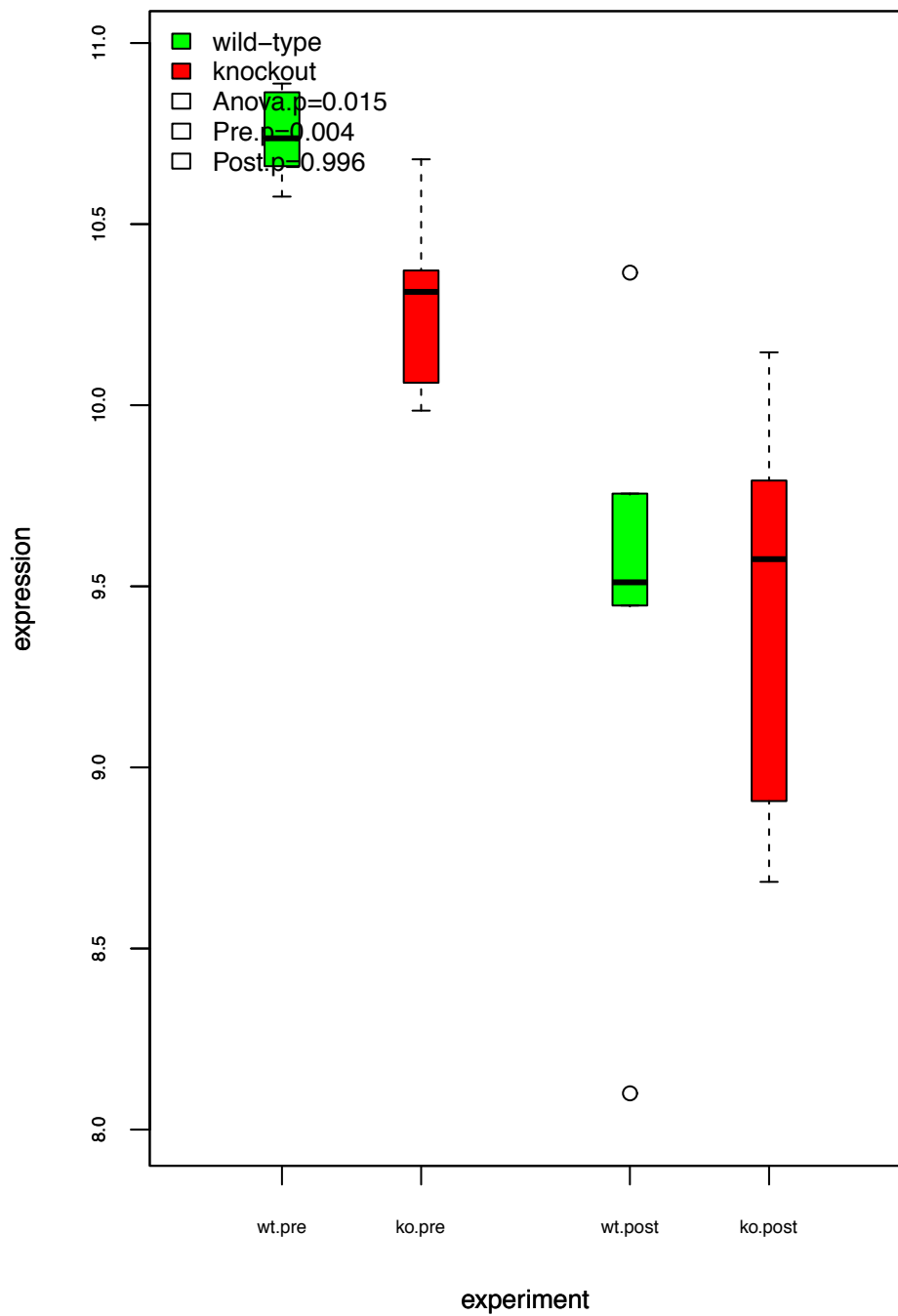
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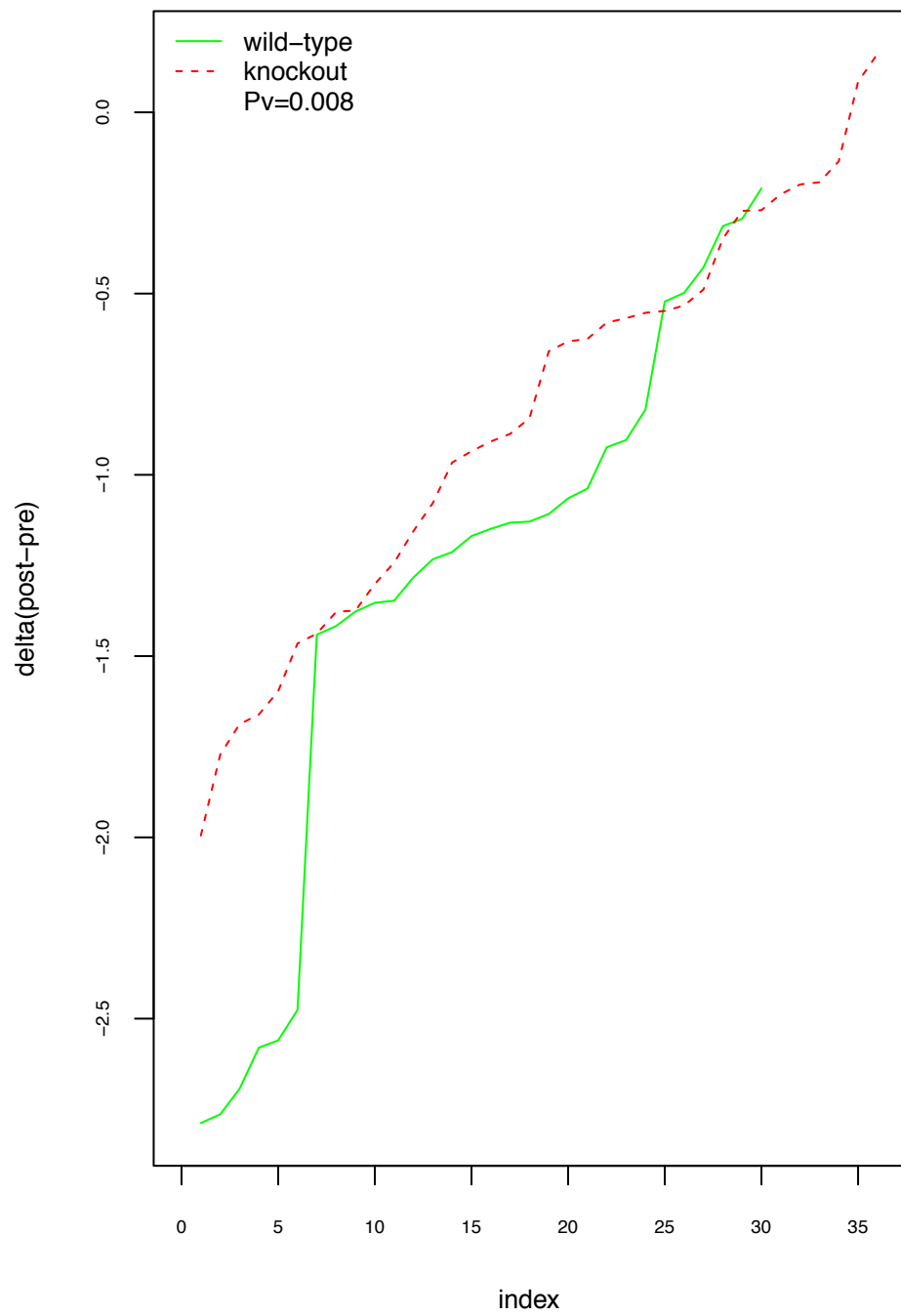
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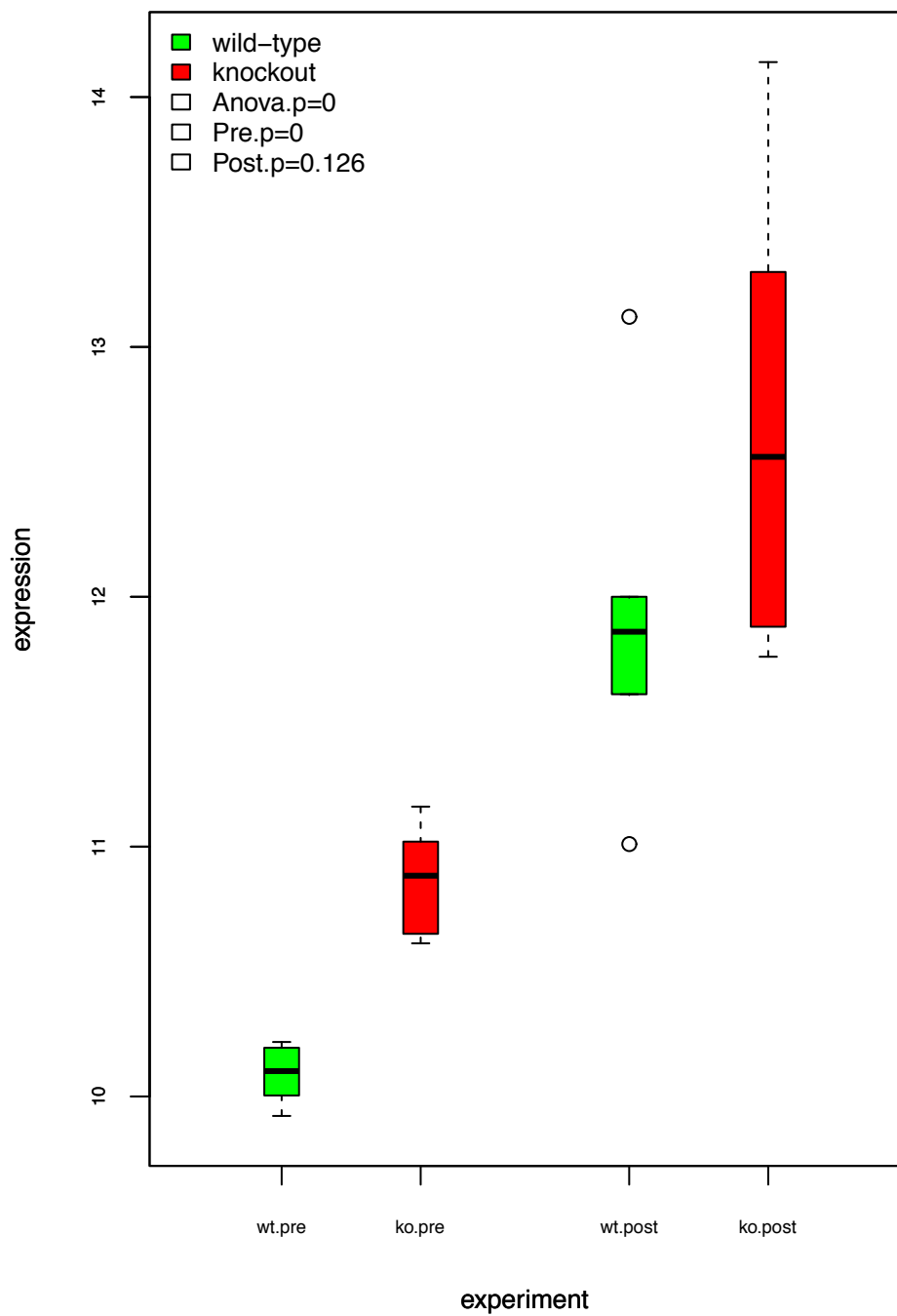
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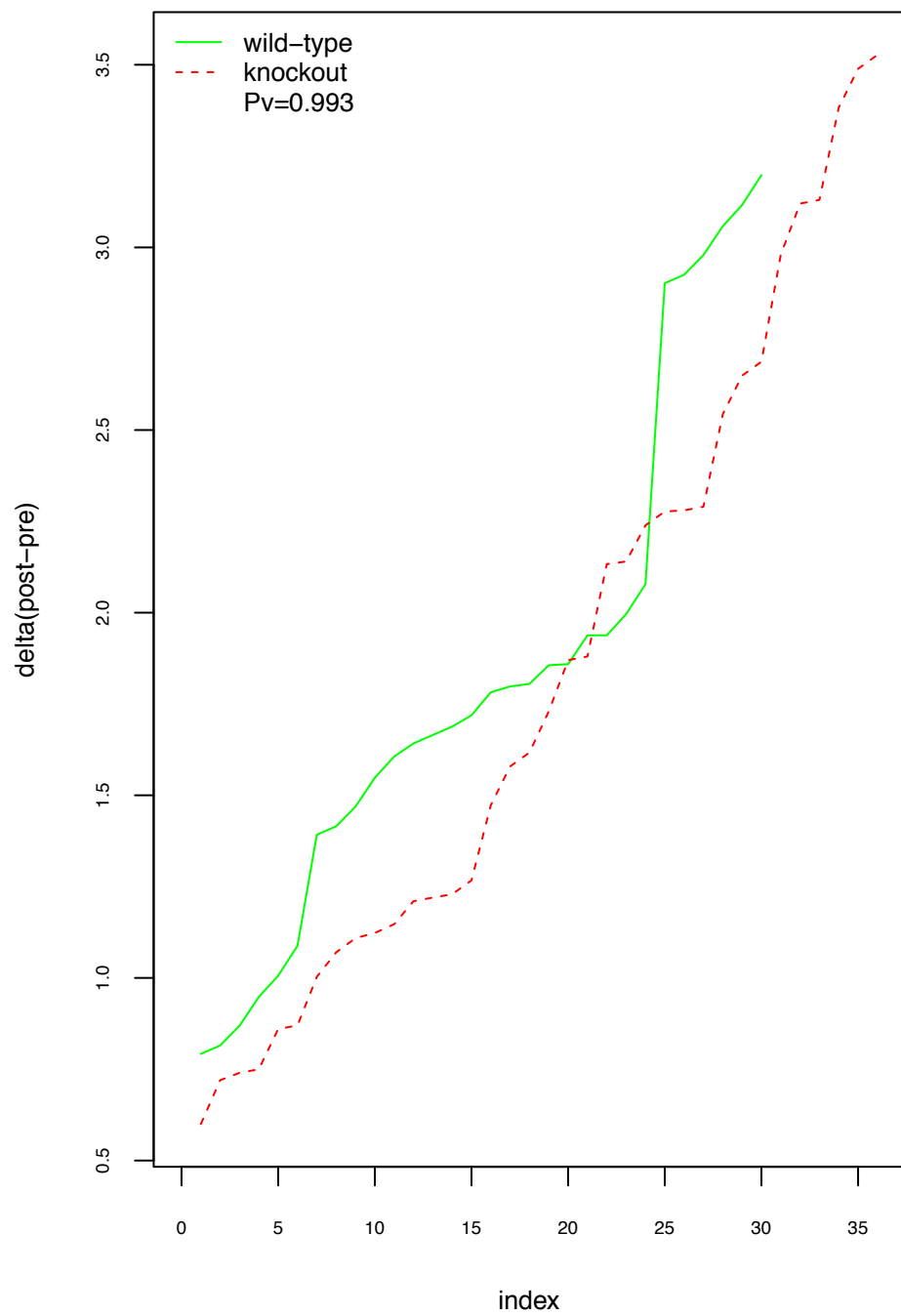
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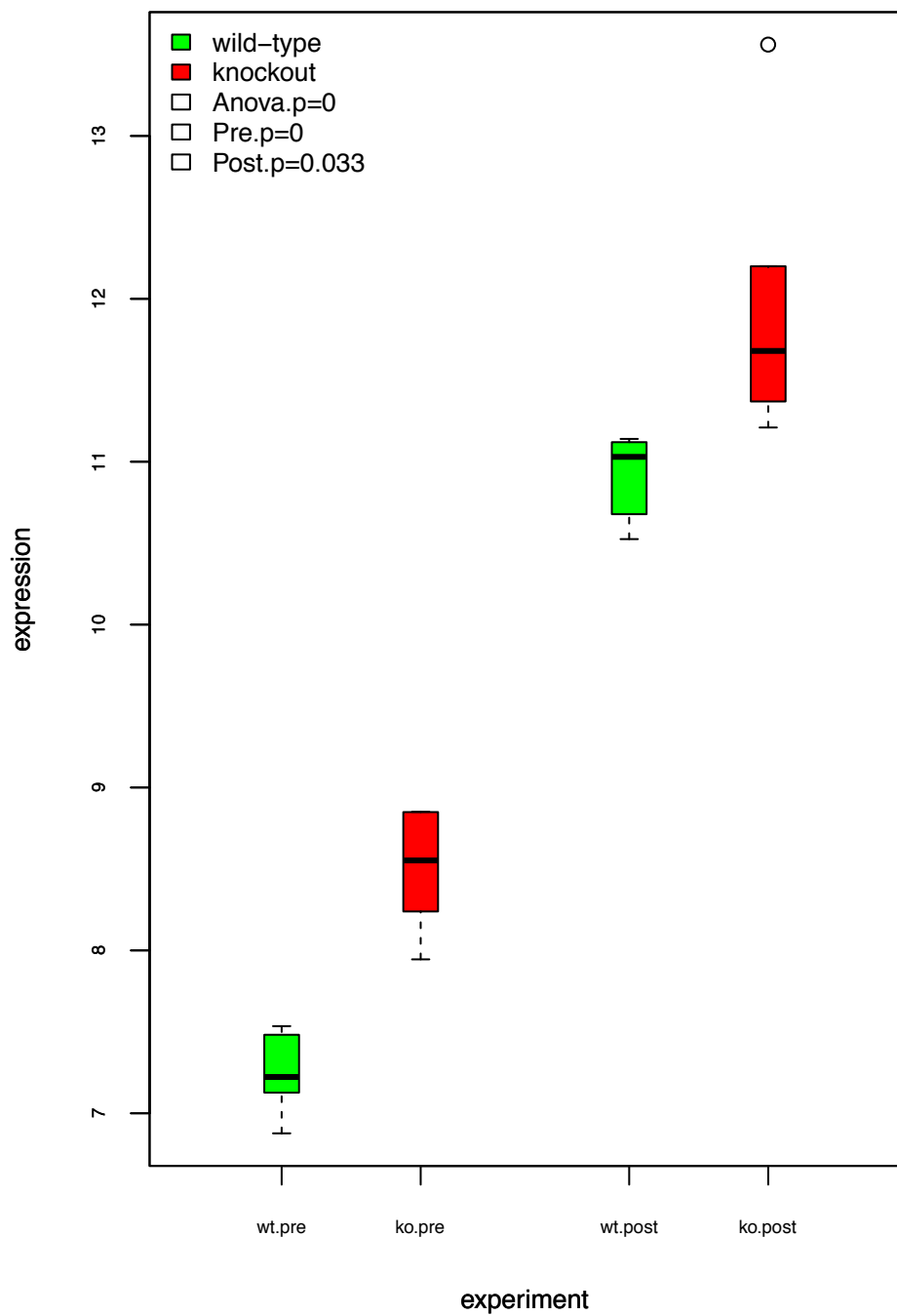
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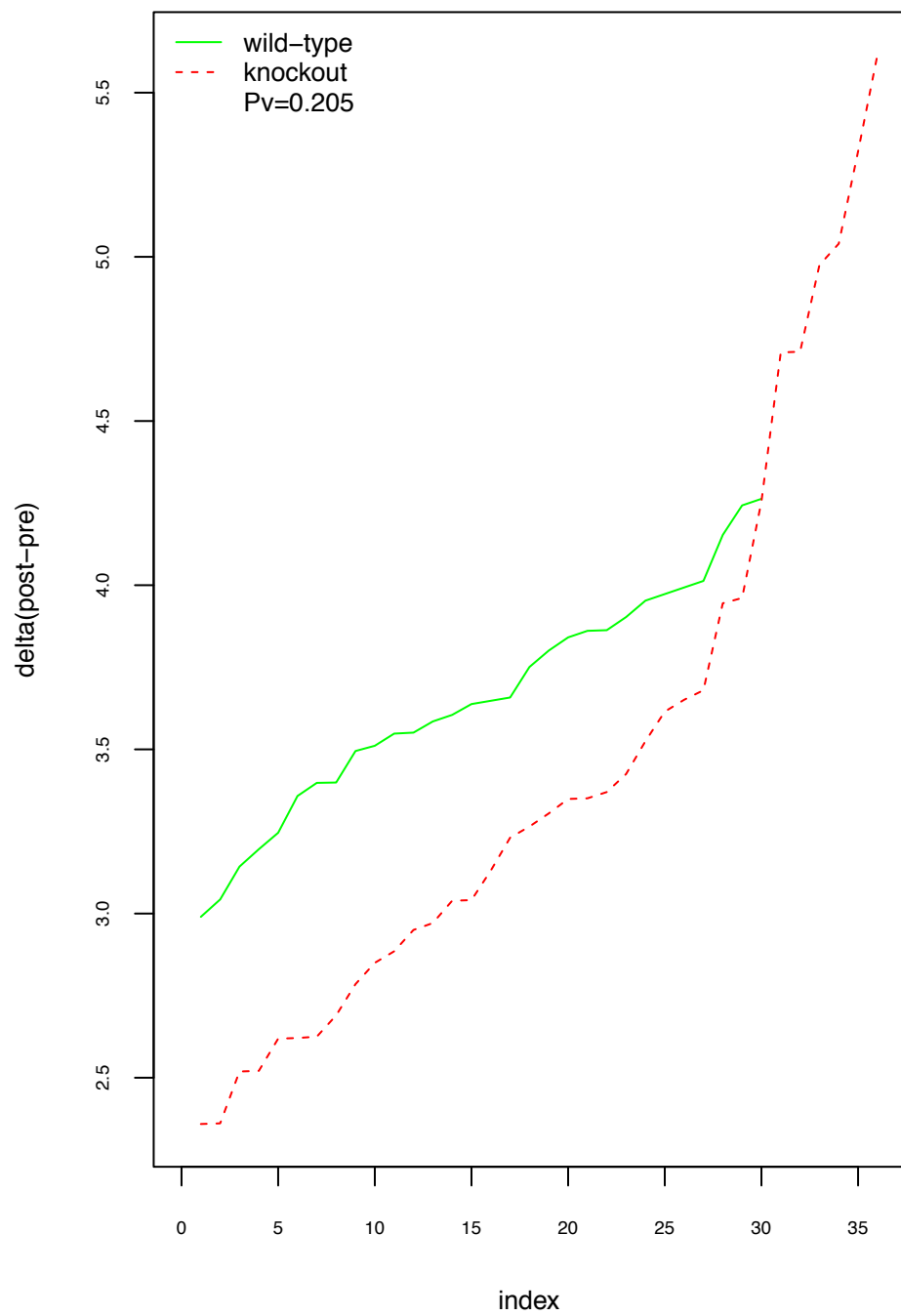
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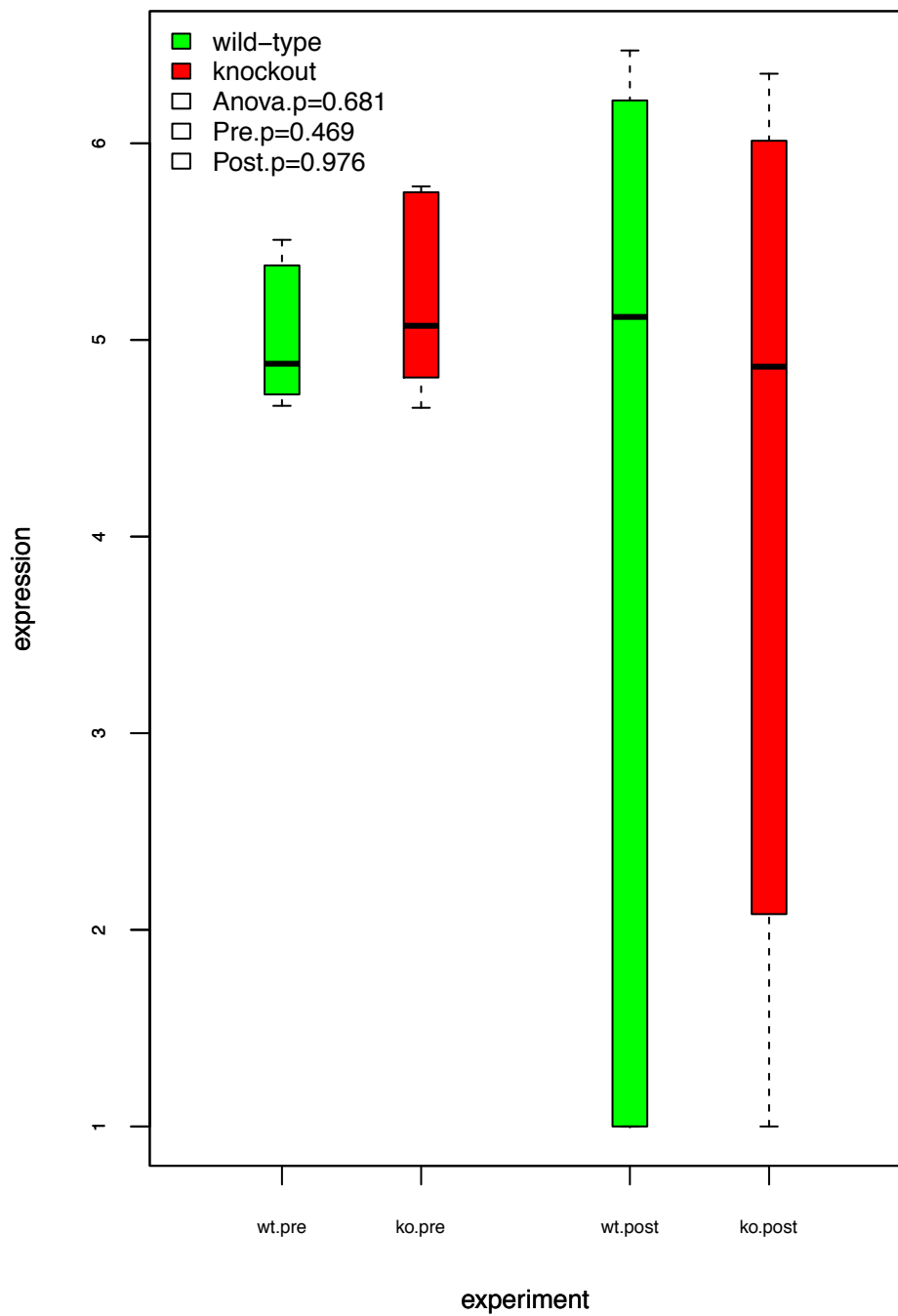
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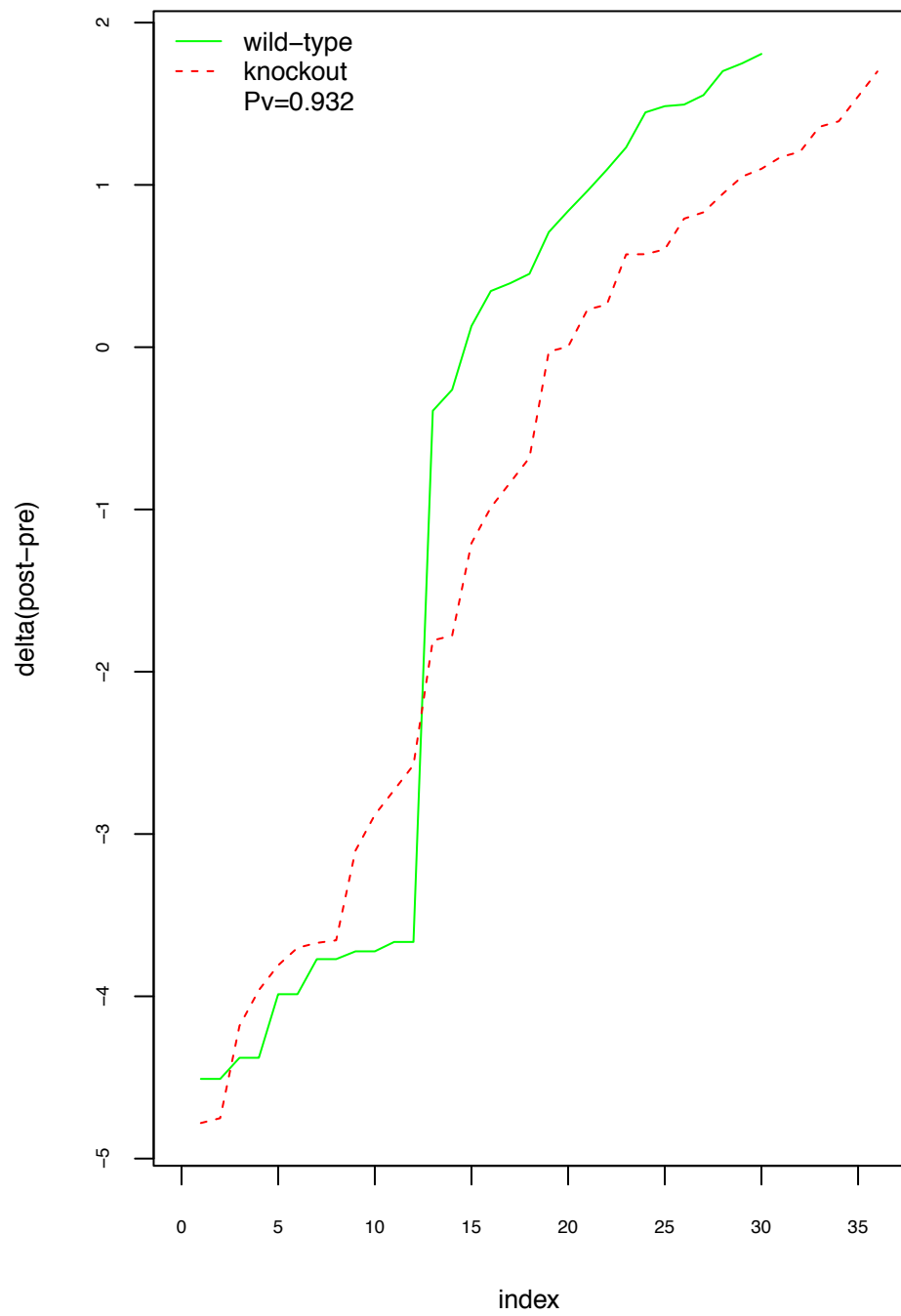
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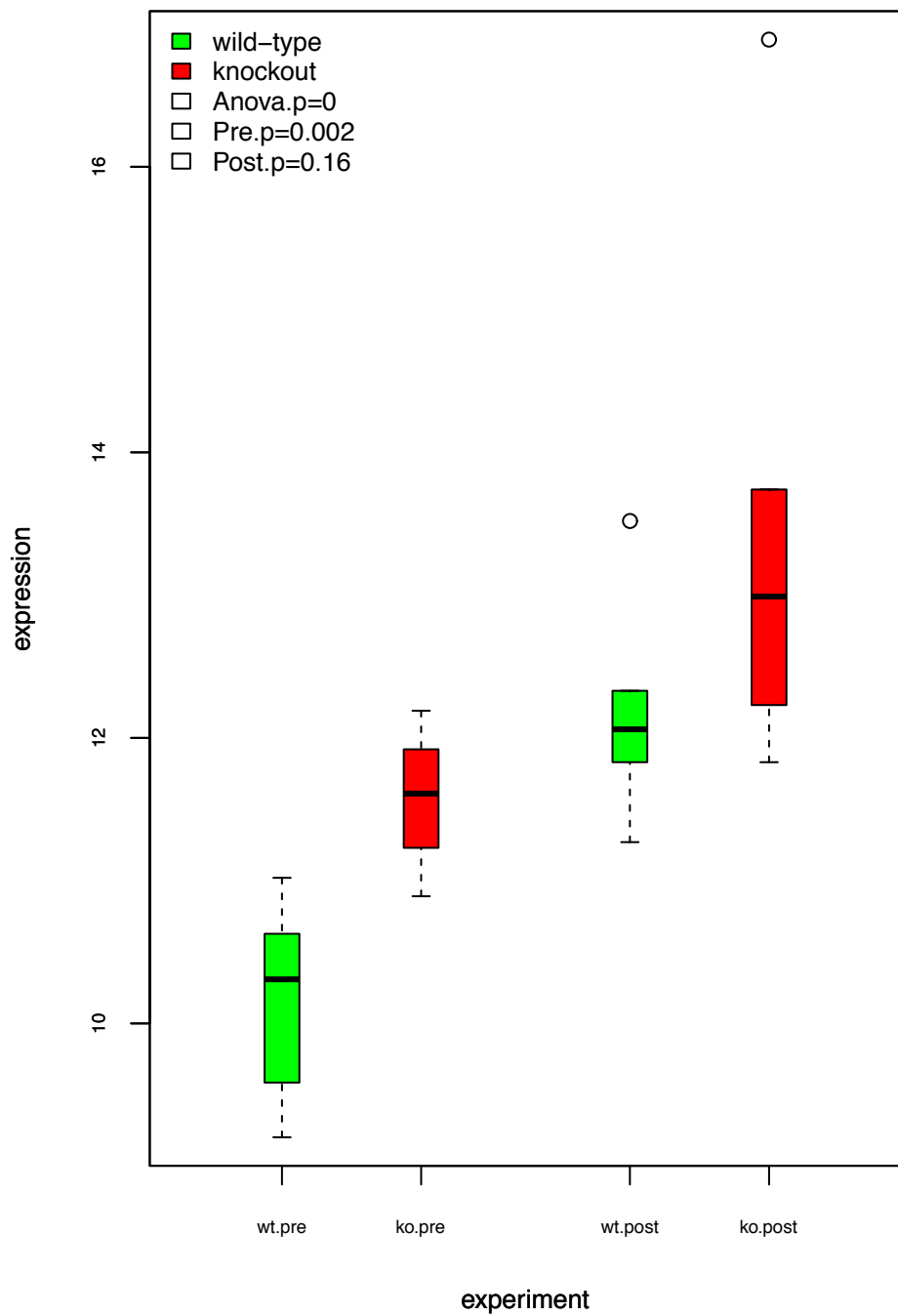
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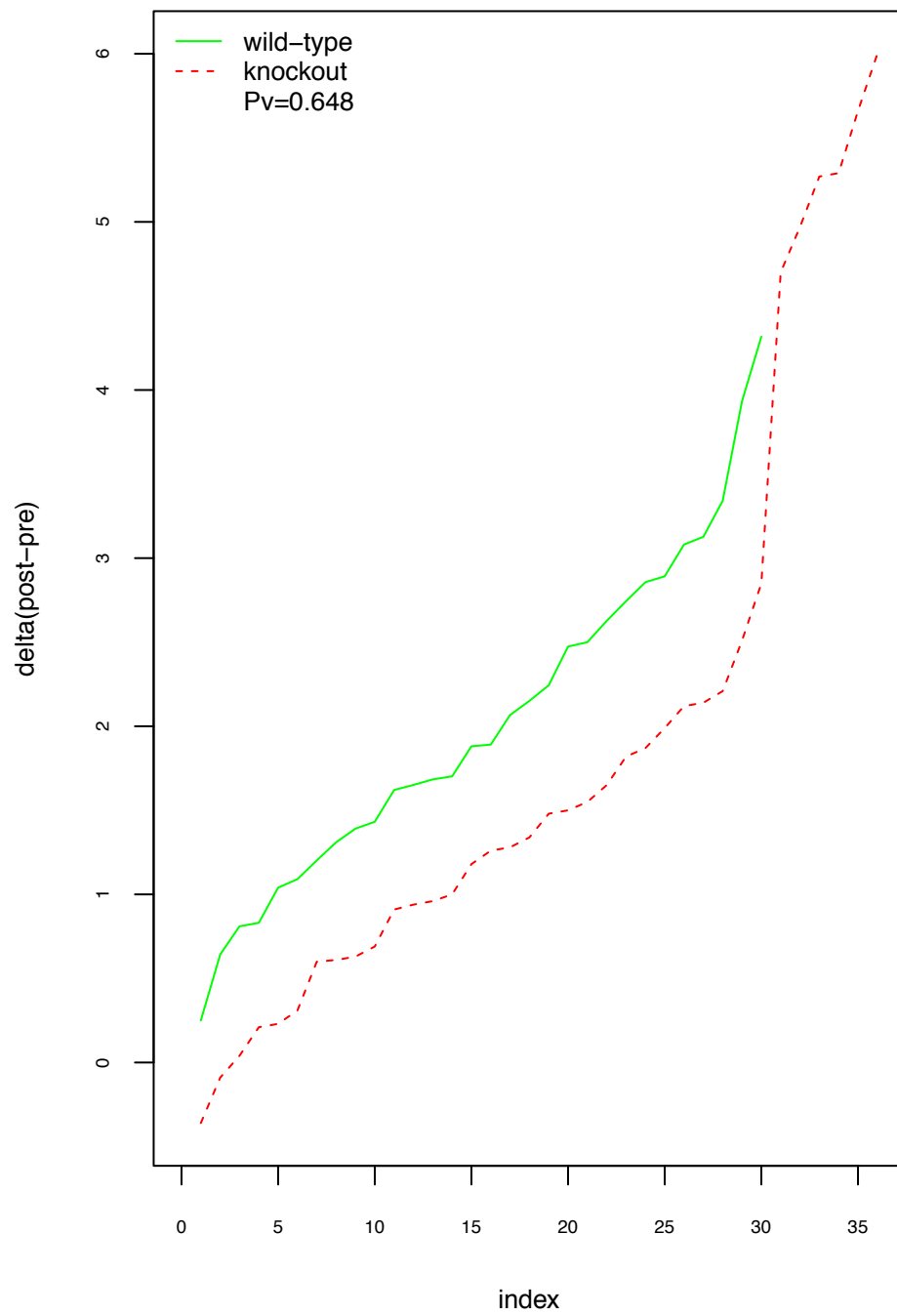
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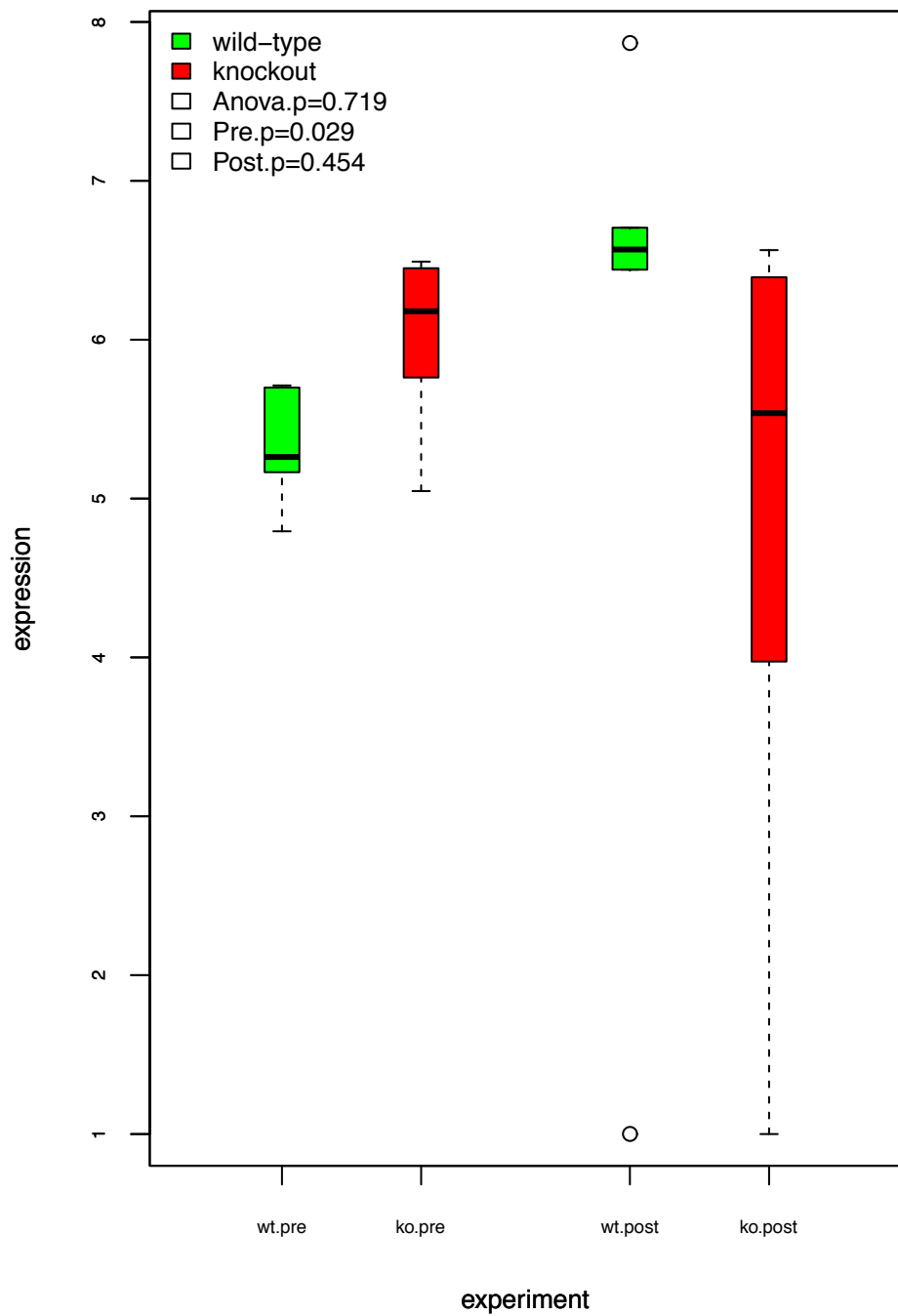
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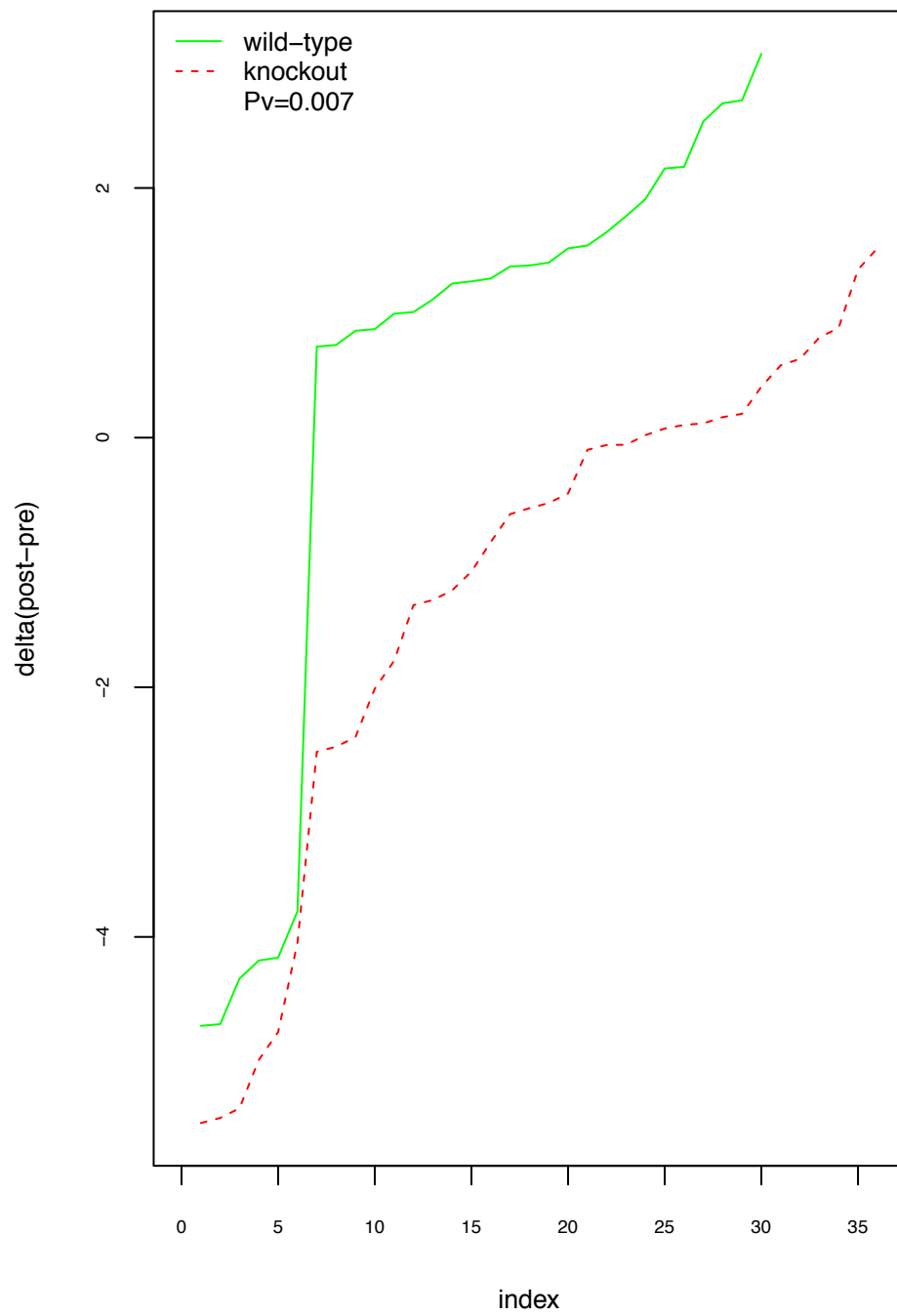
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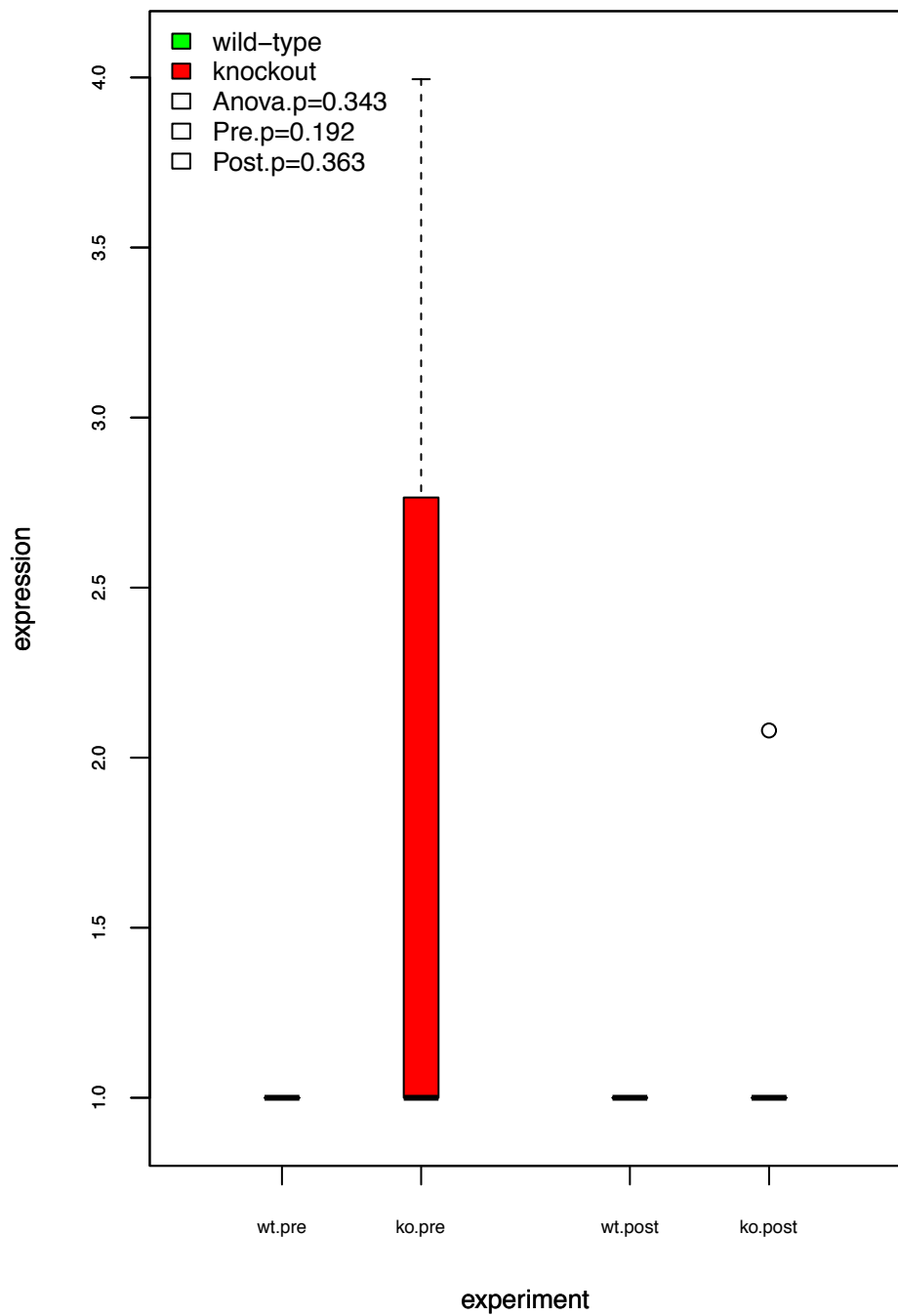
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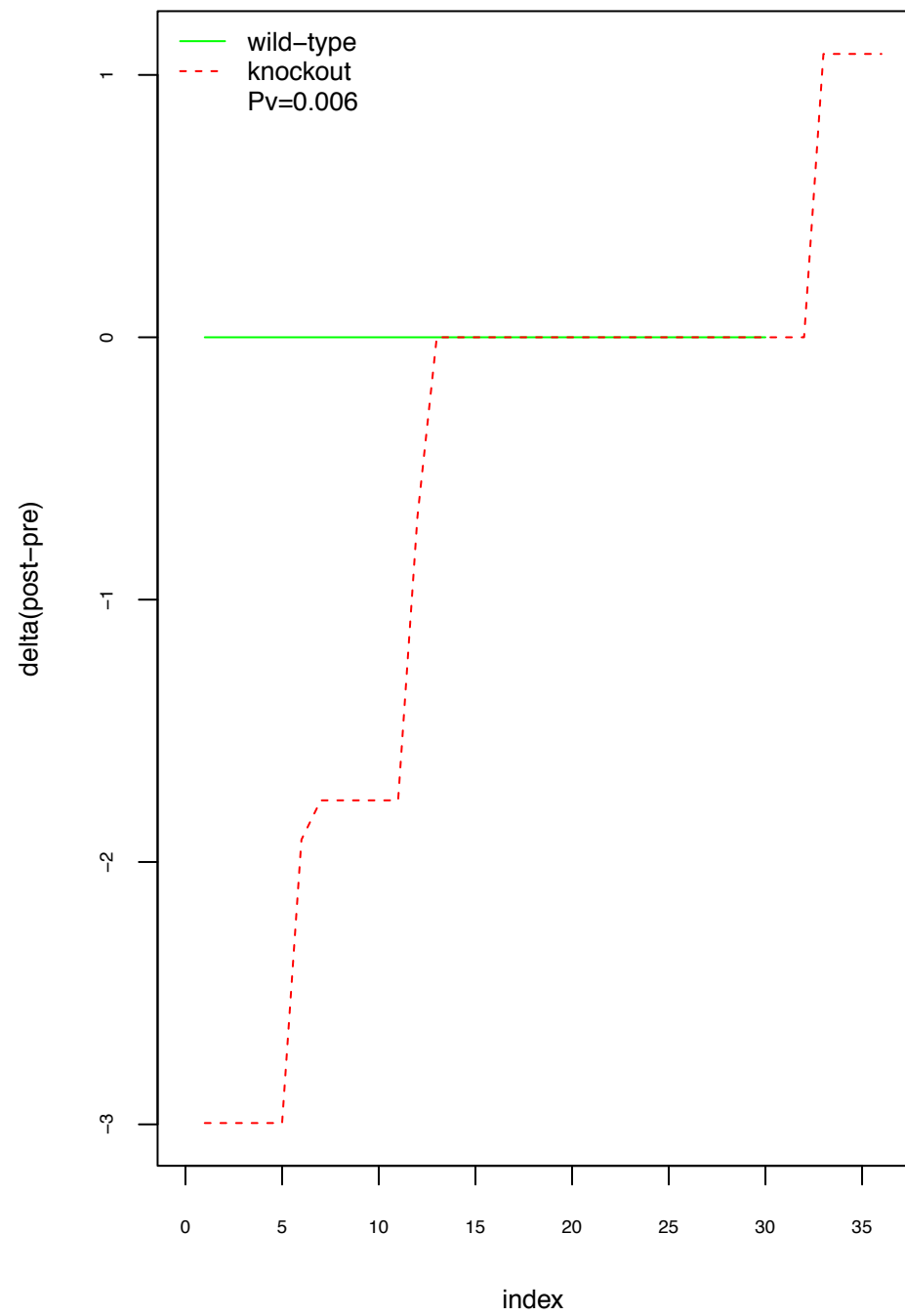
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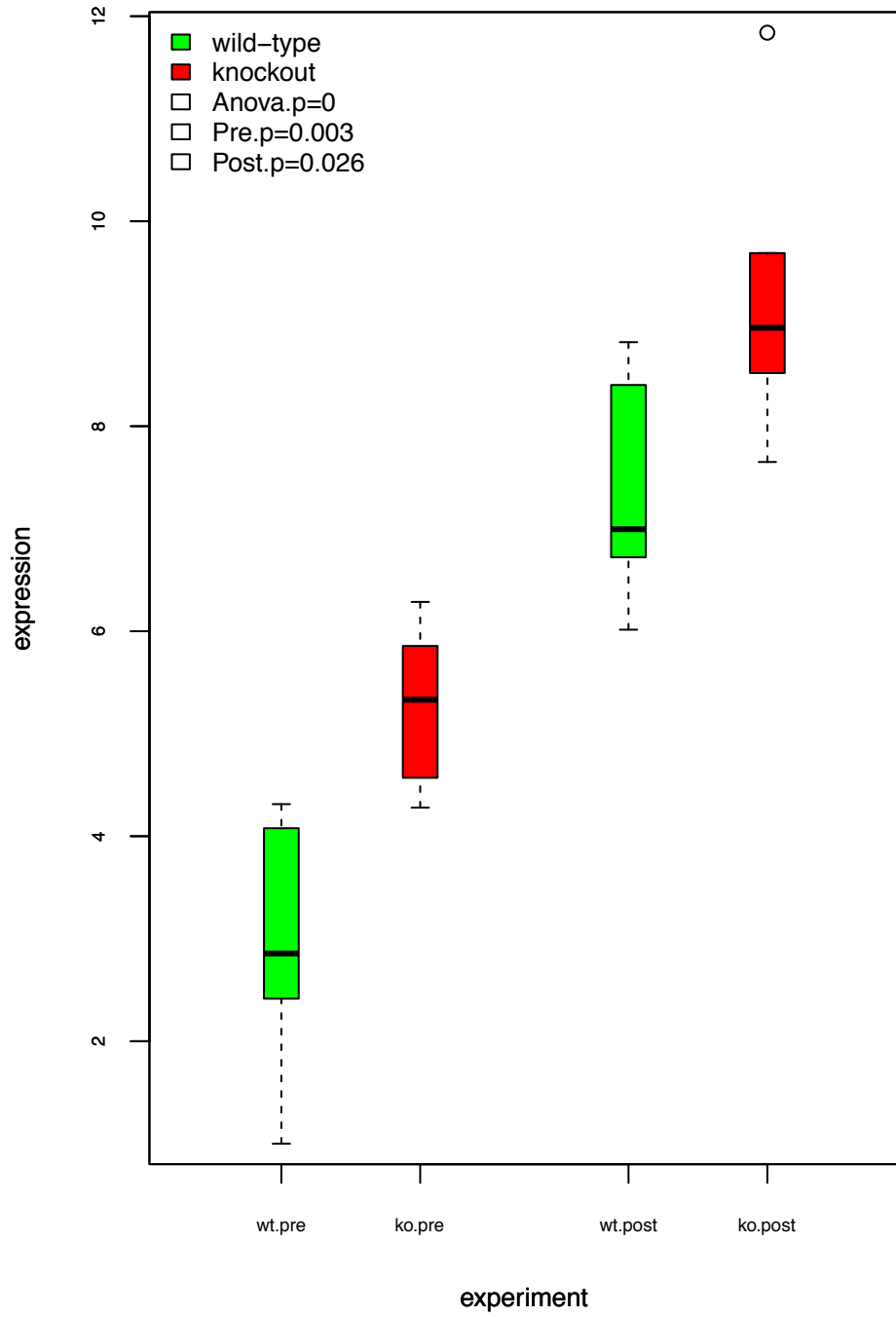
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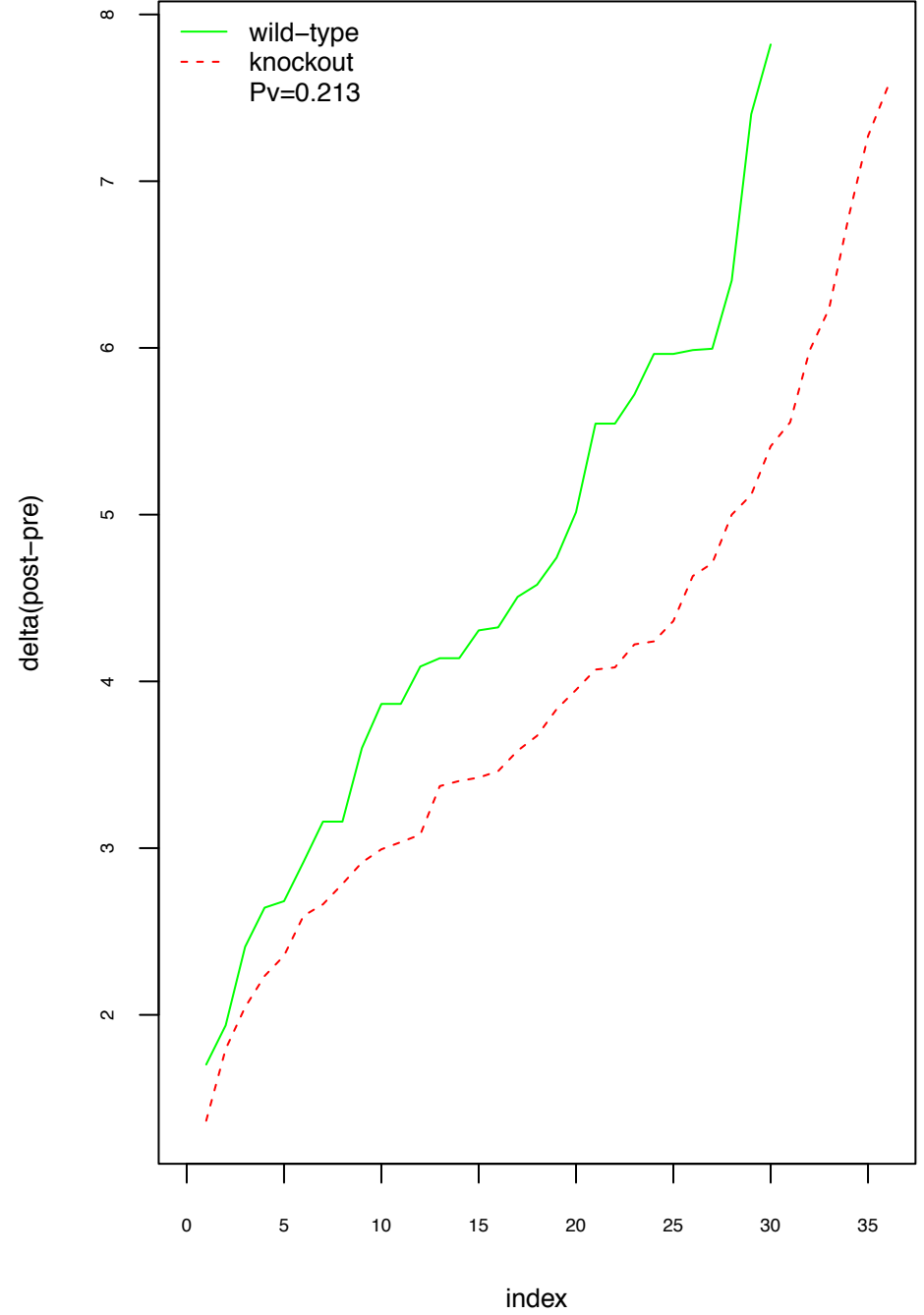
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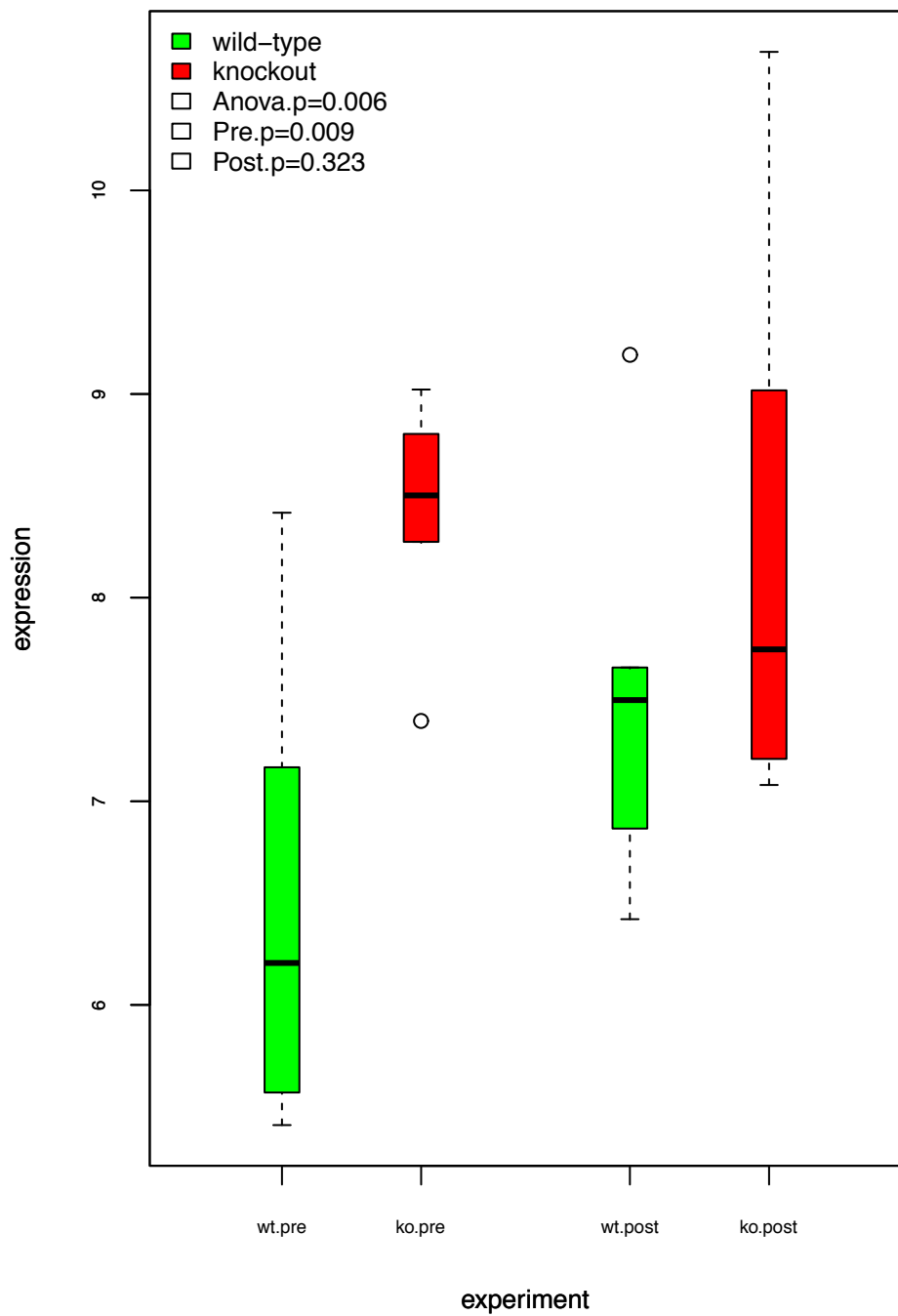
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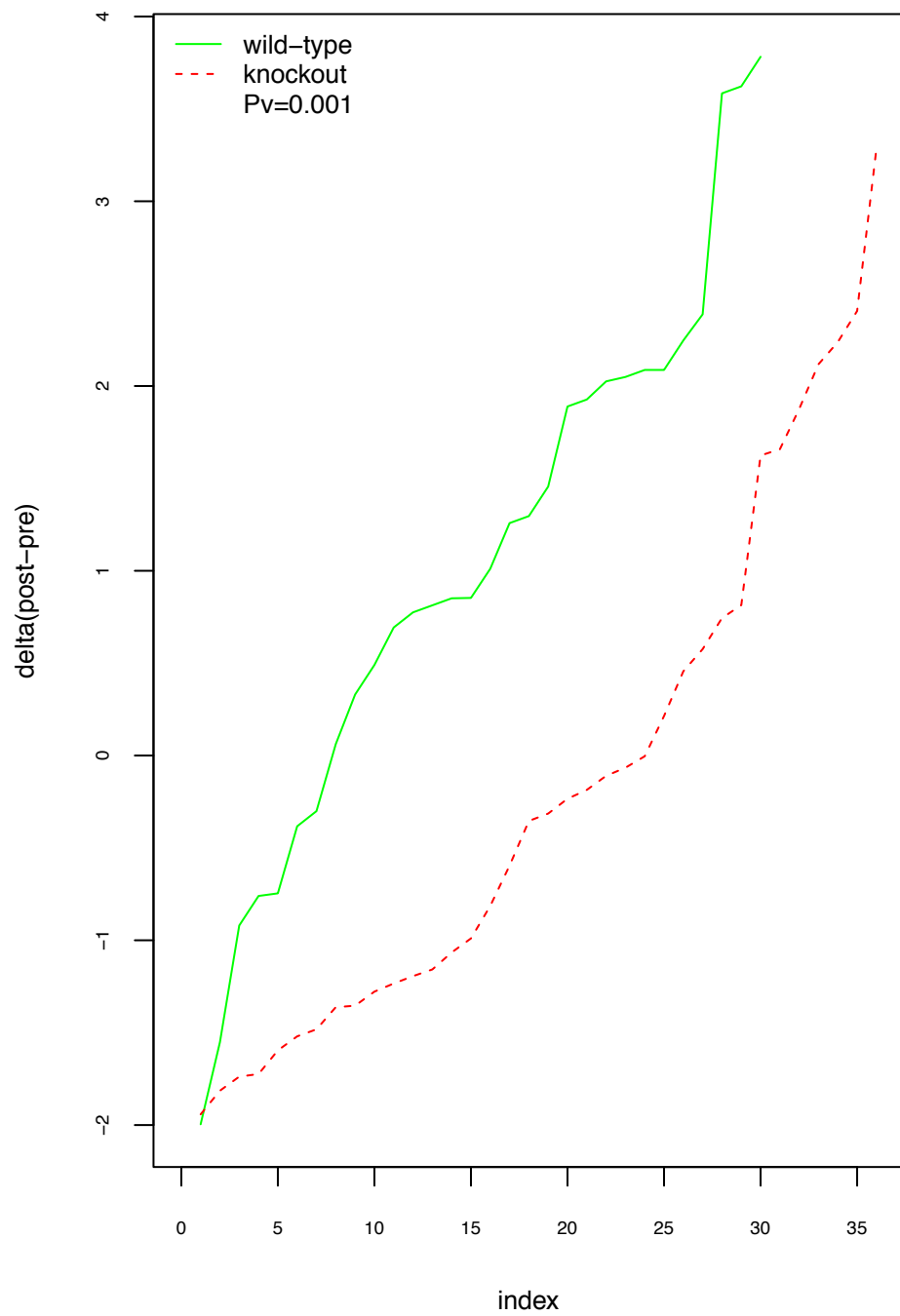
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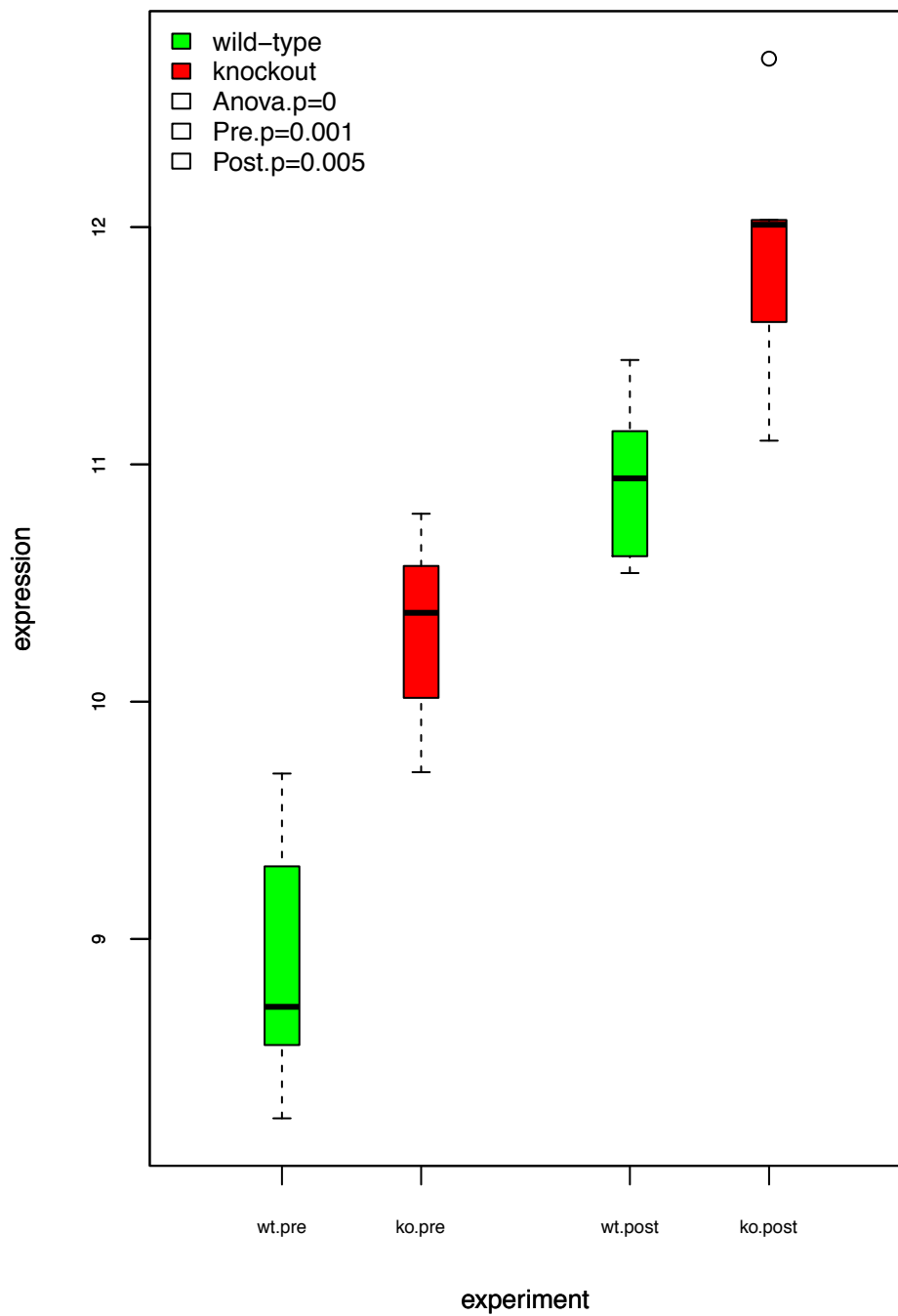
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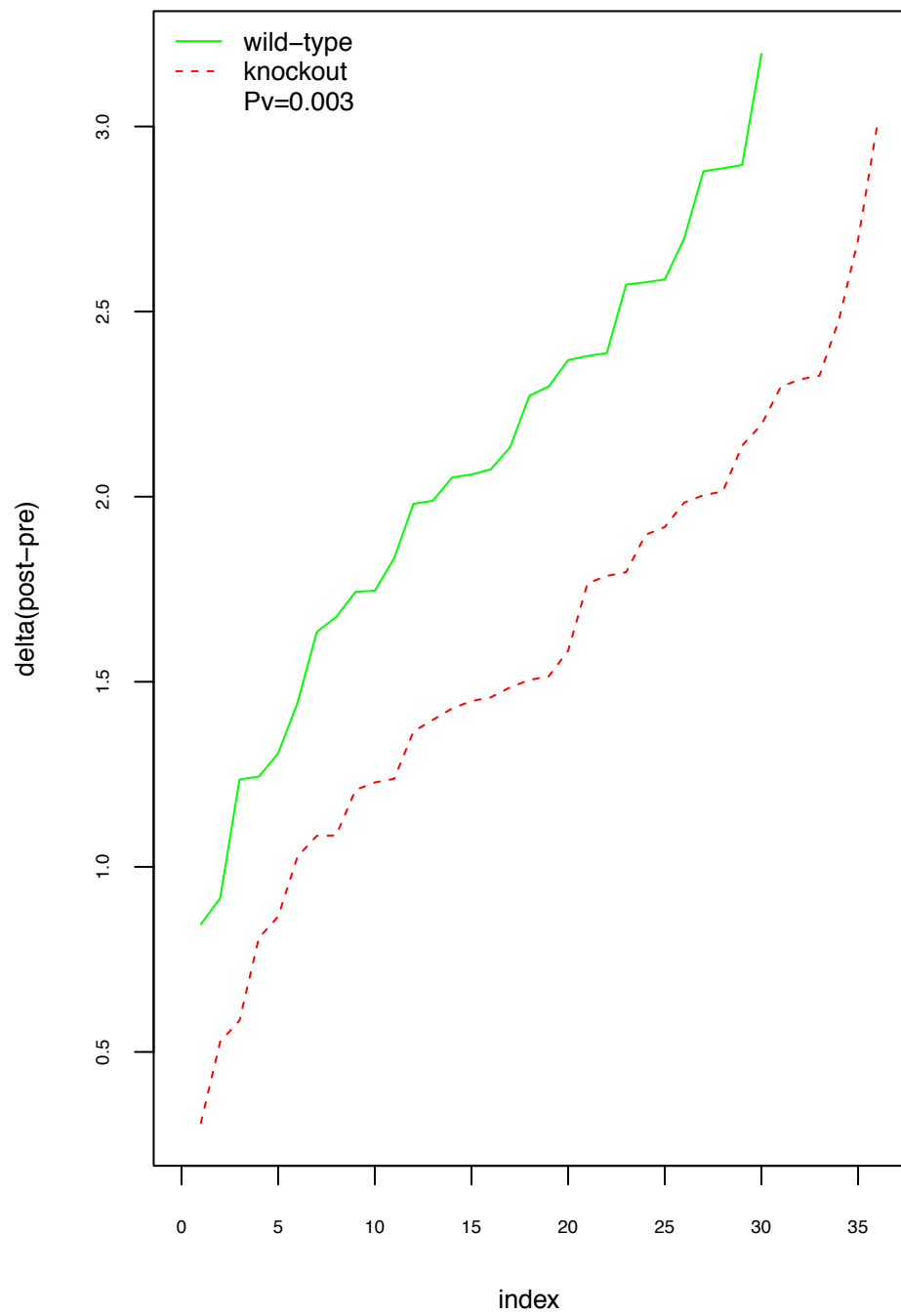
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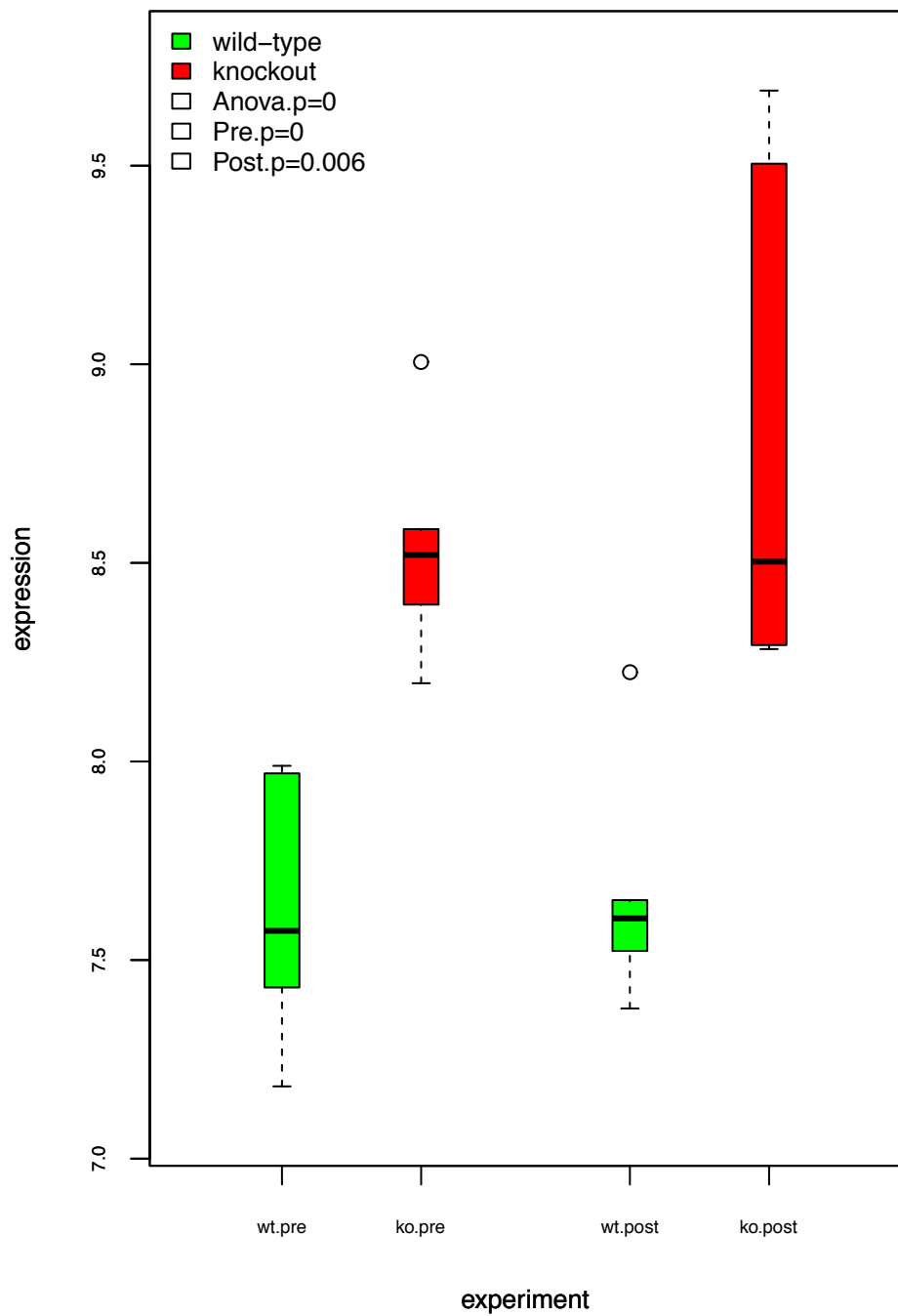
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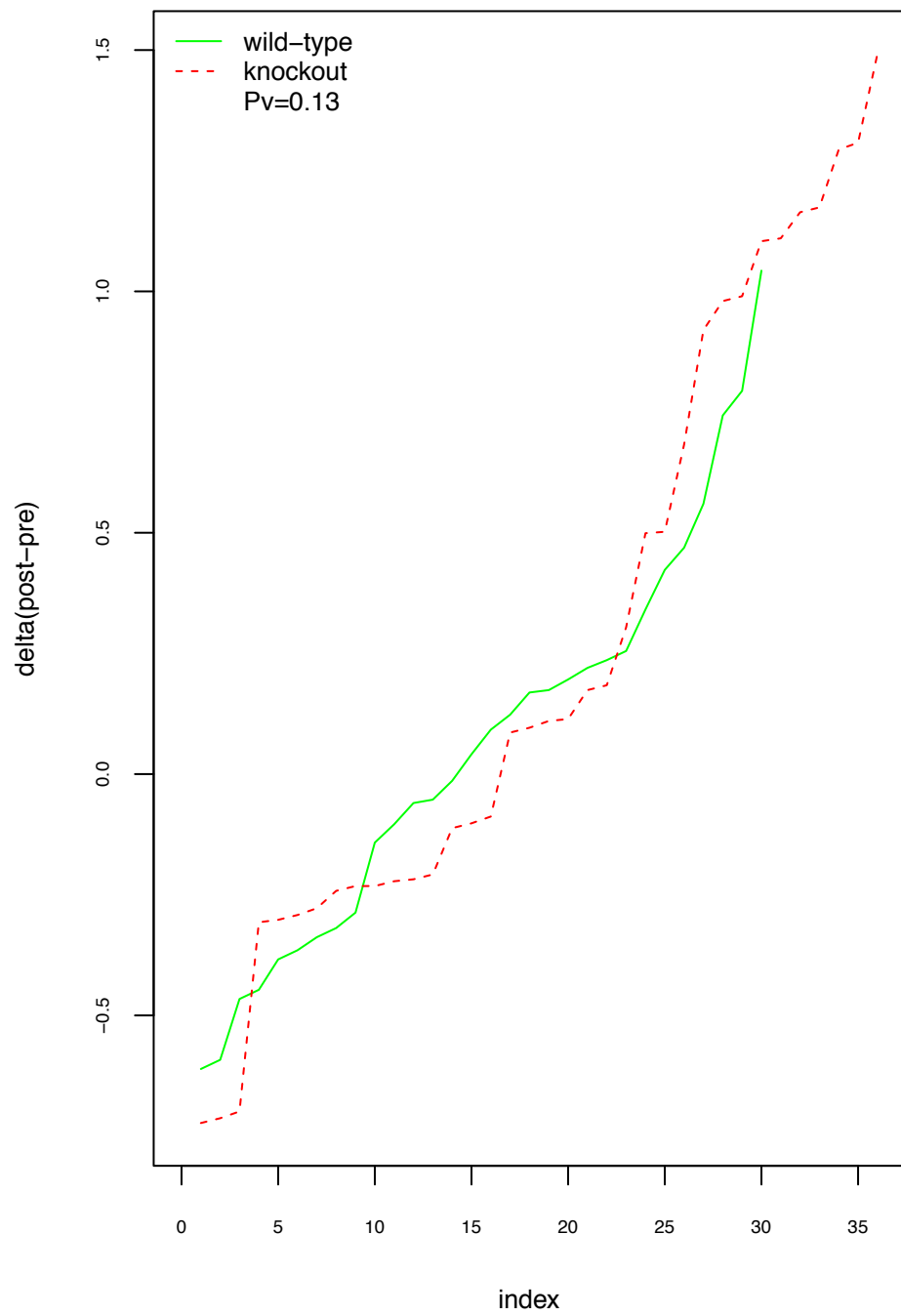
Ddr2



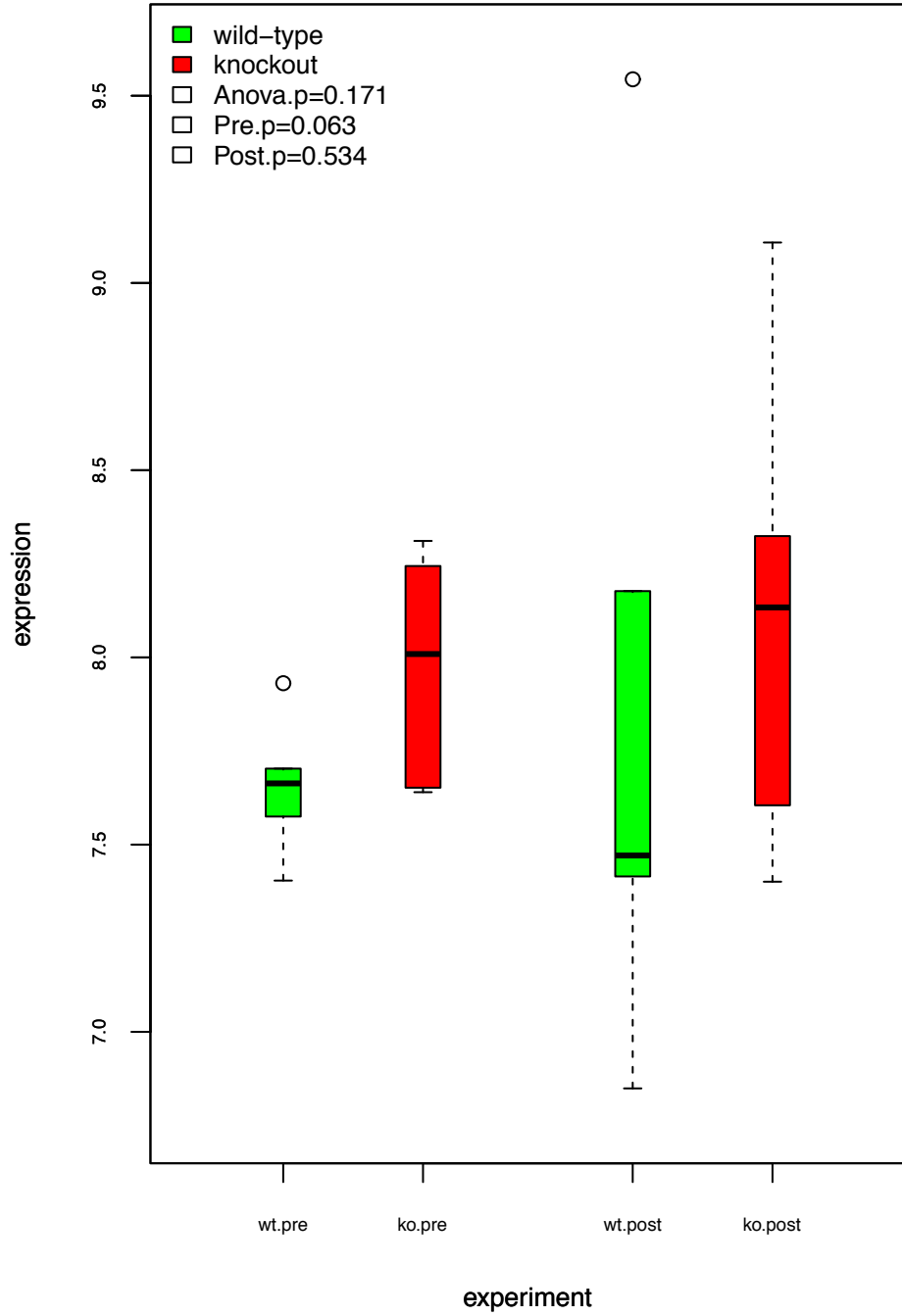
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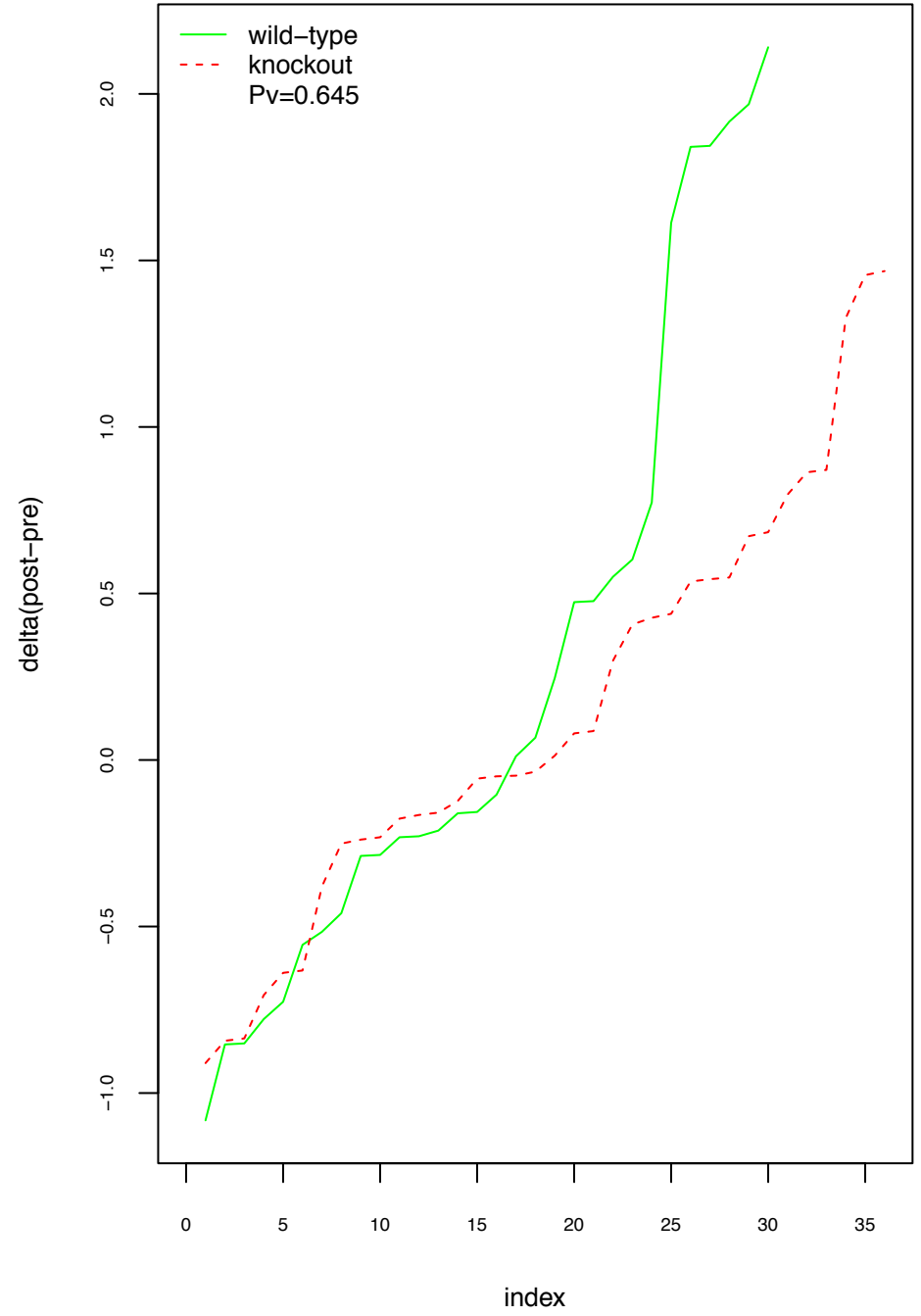
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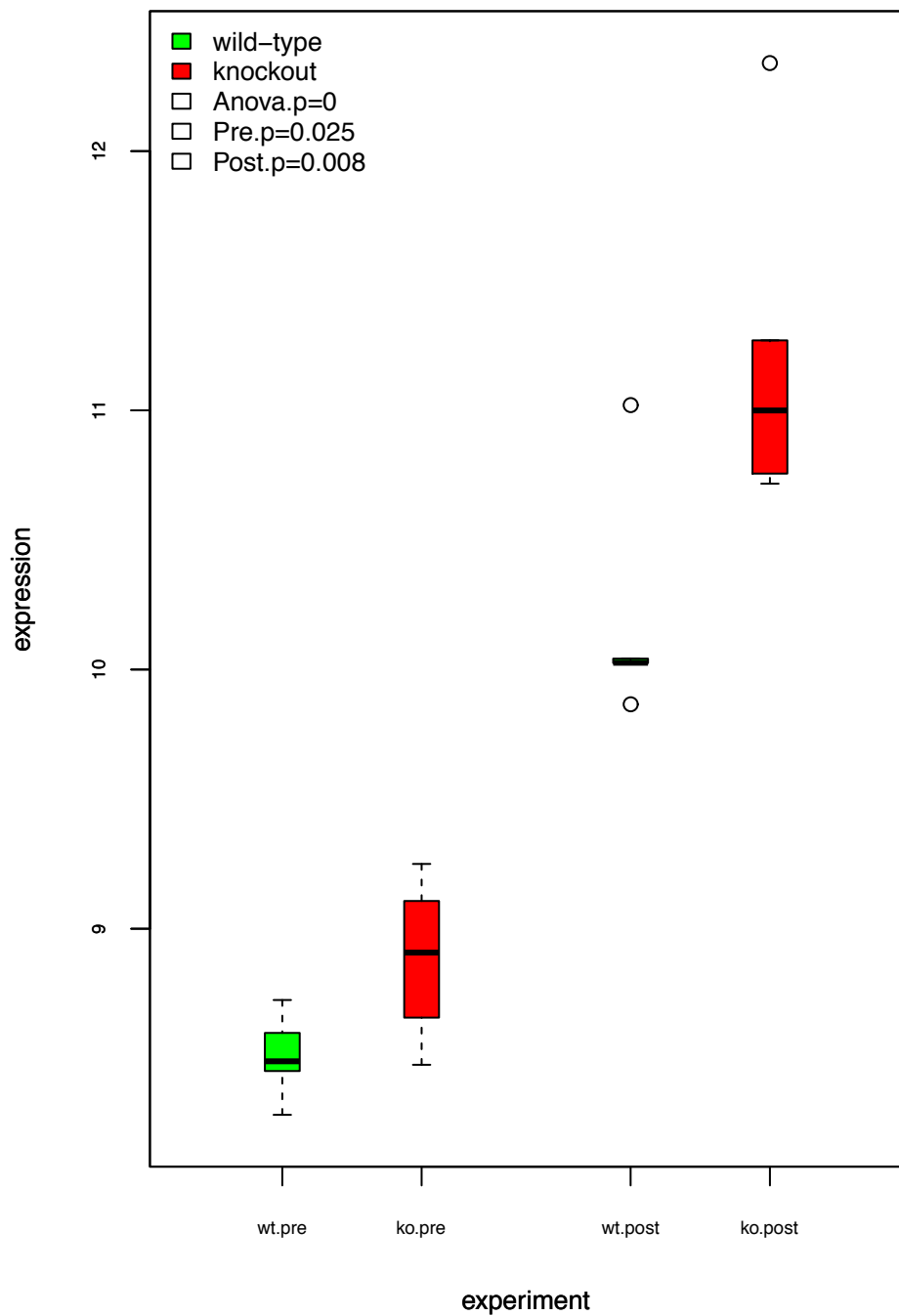
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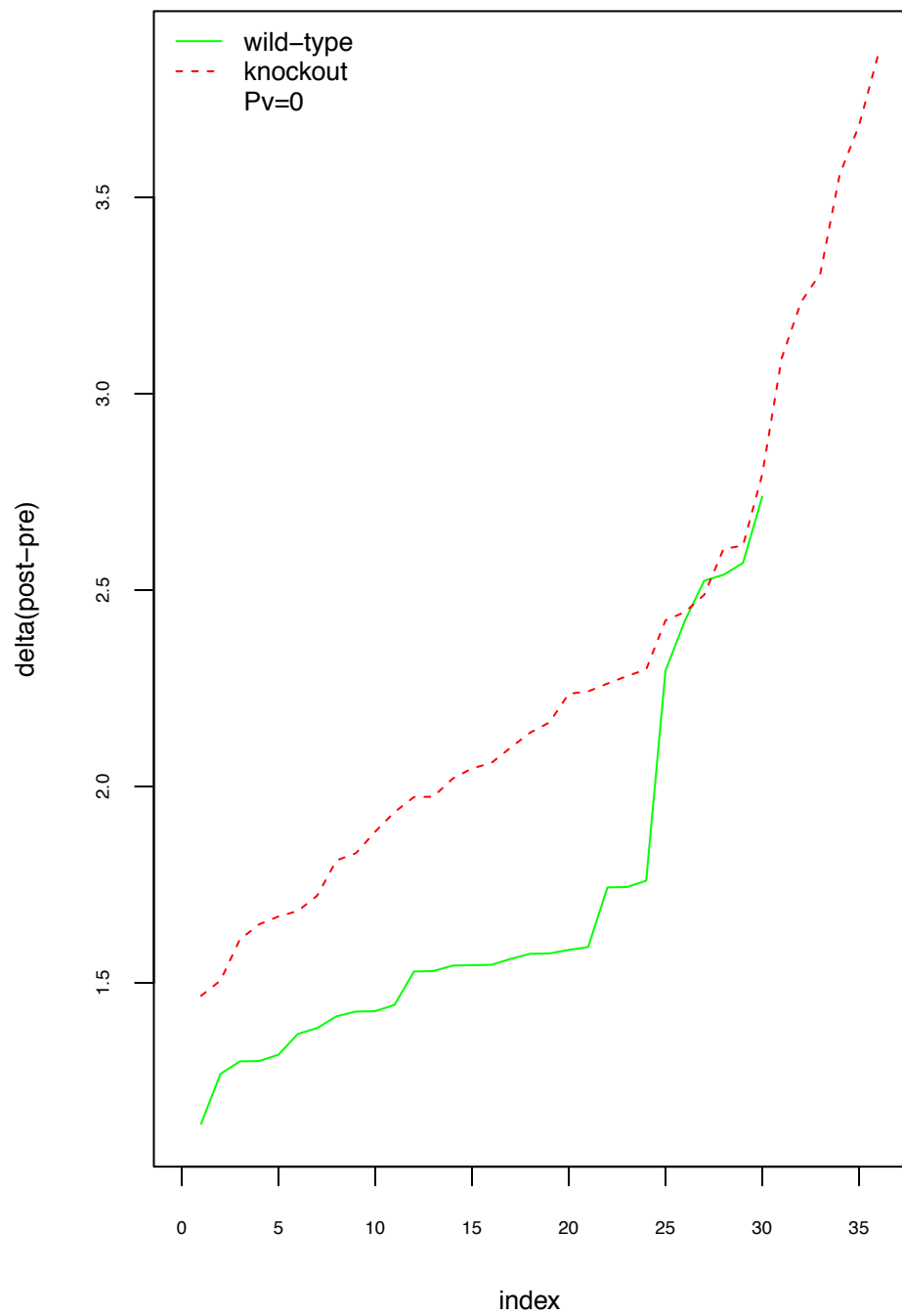
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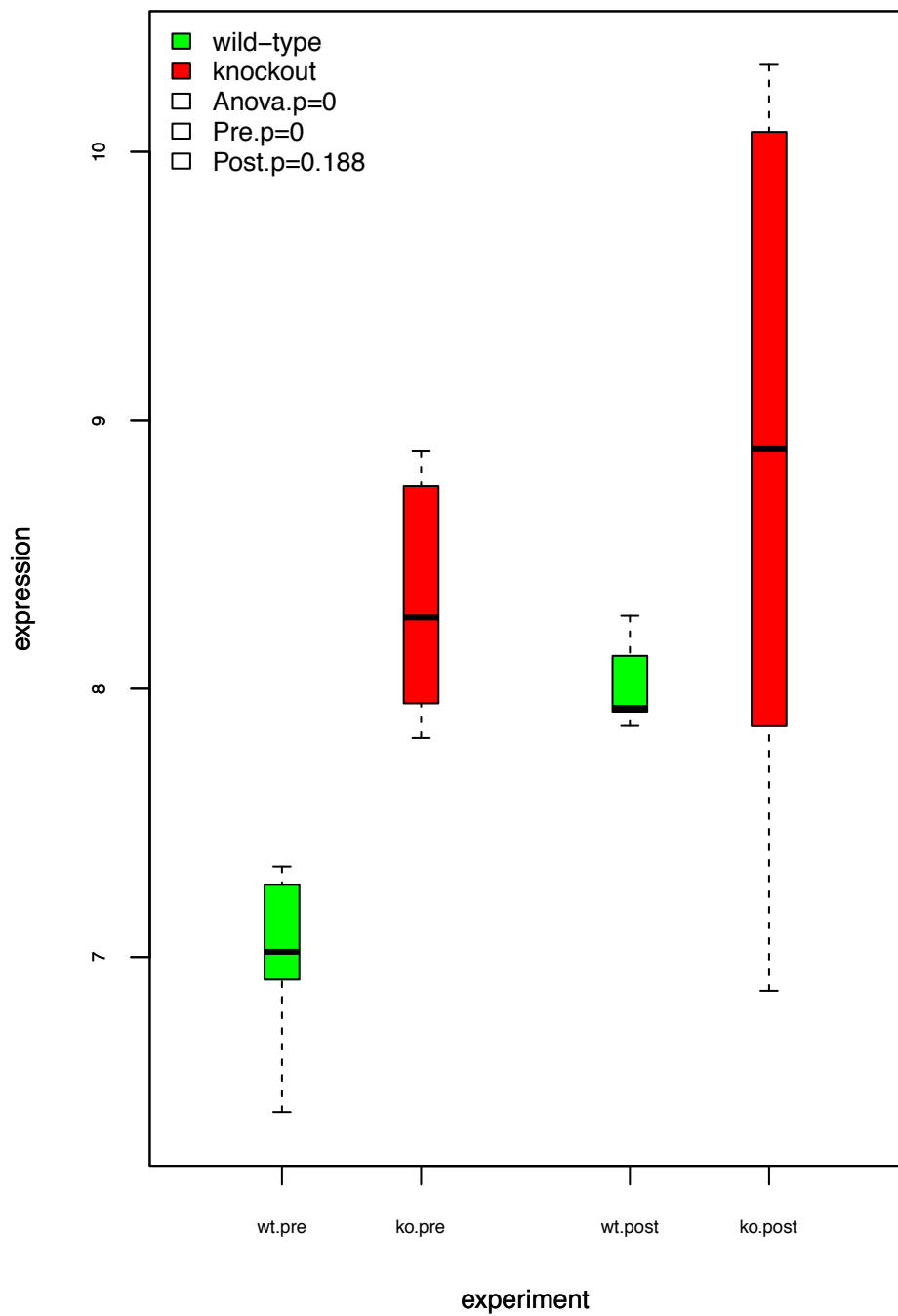
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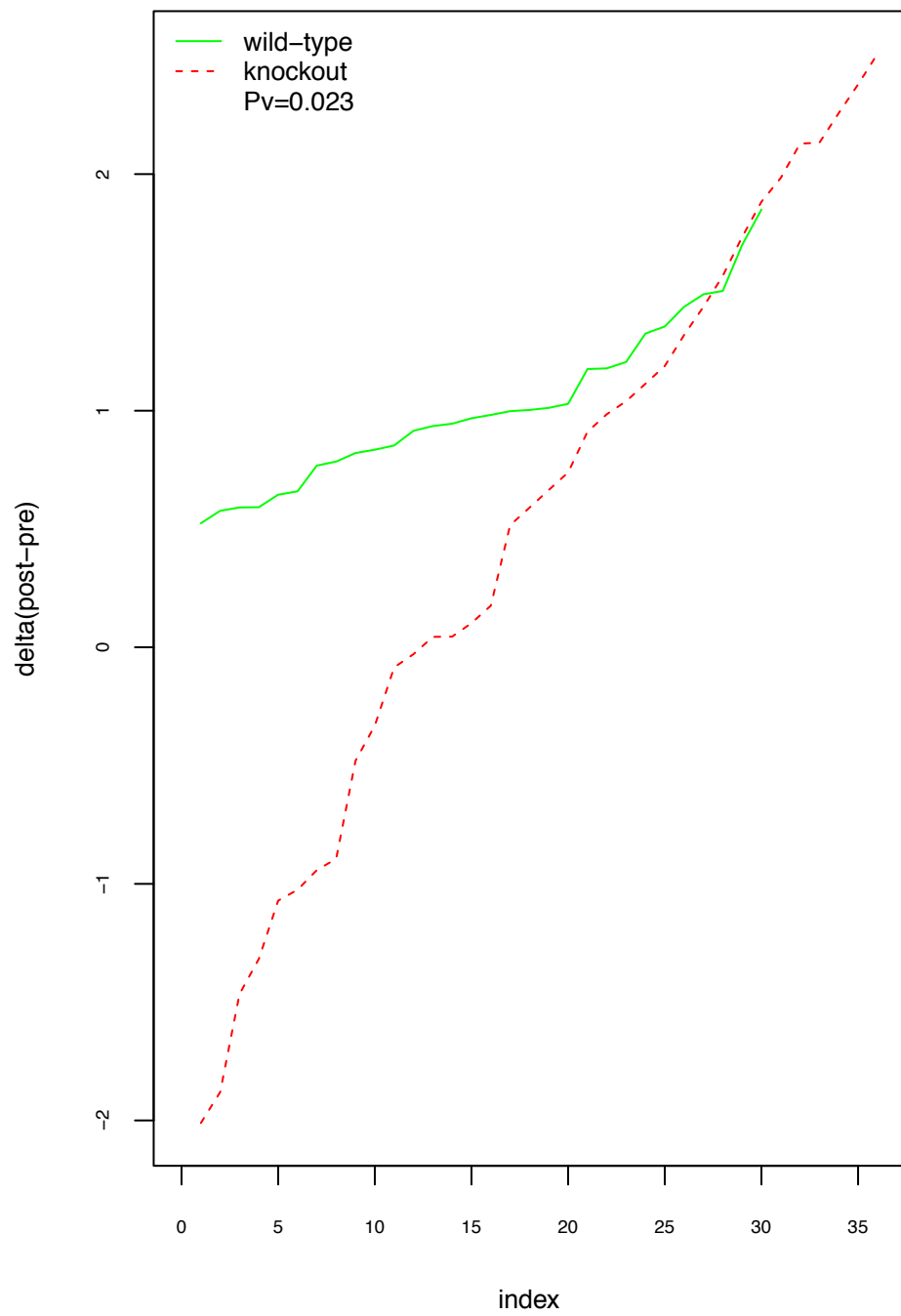
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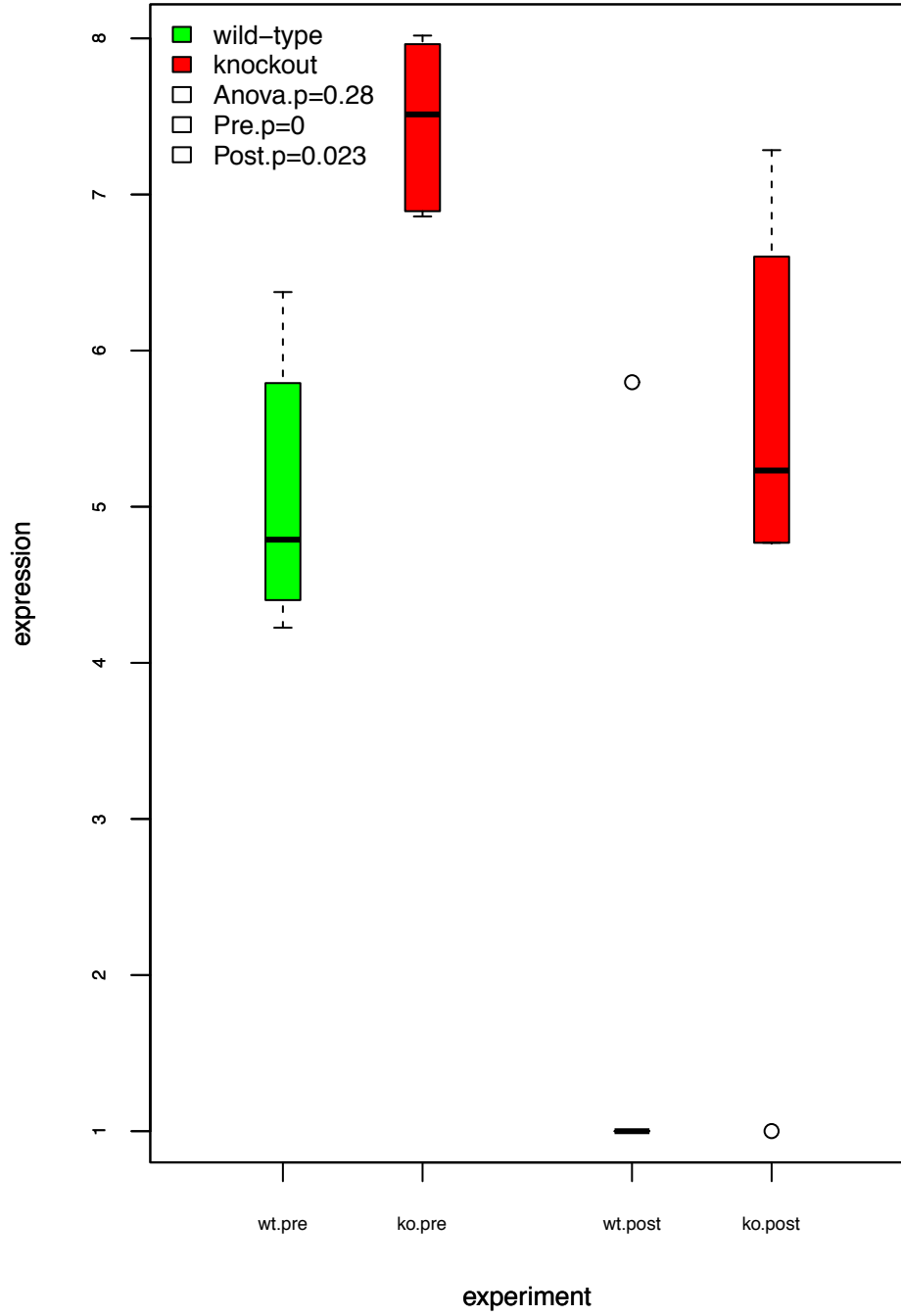
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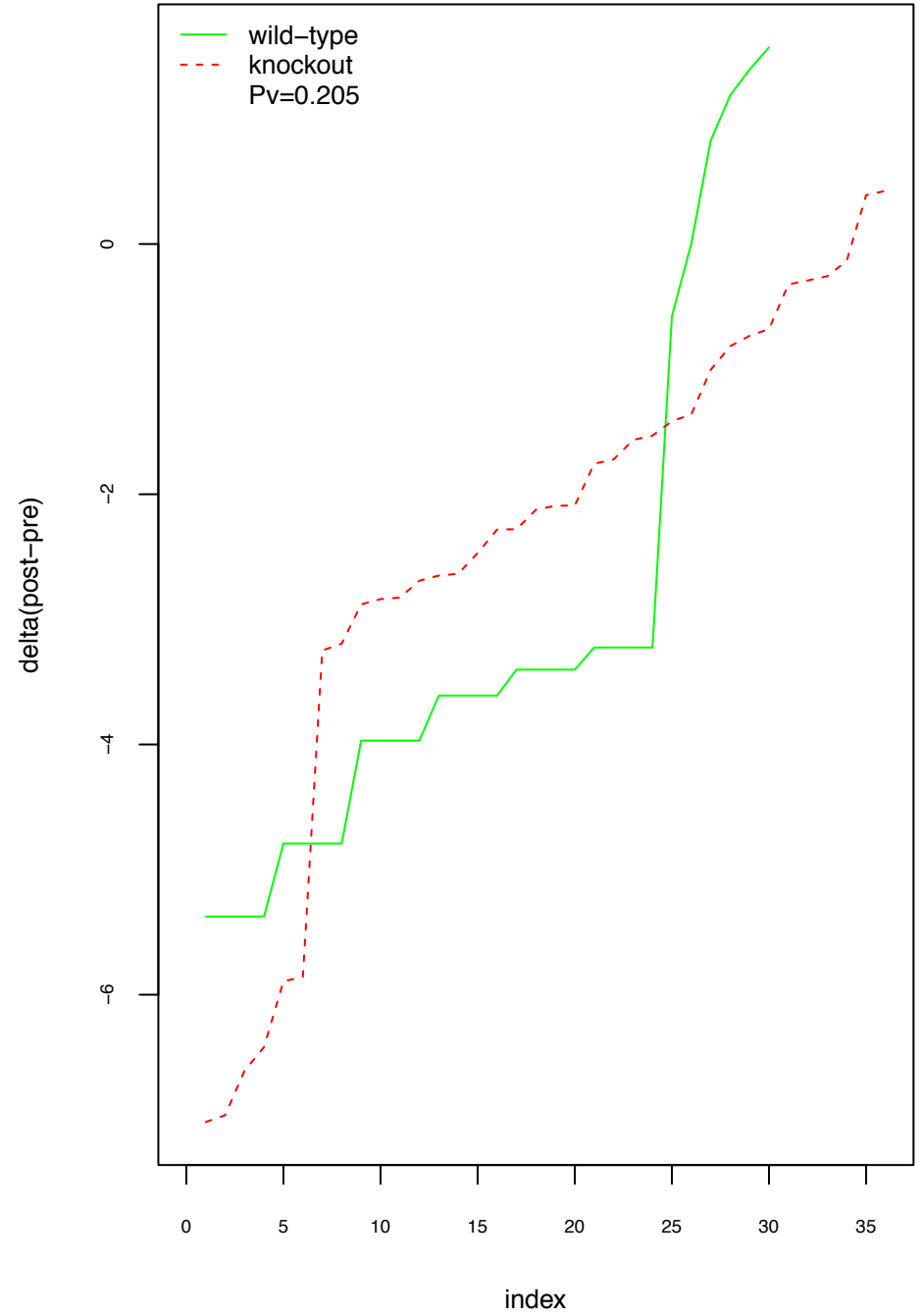
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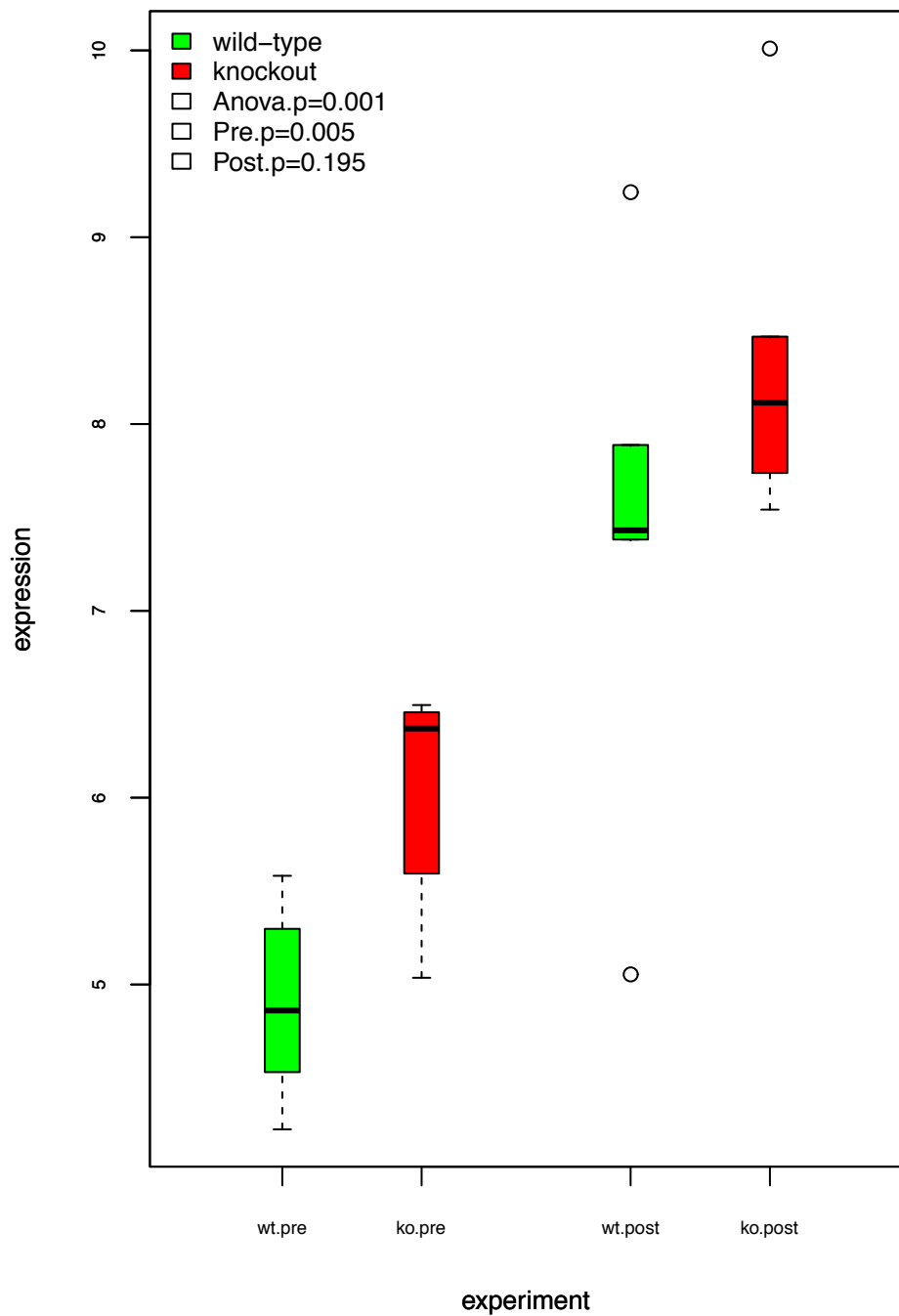
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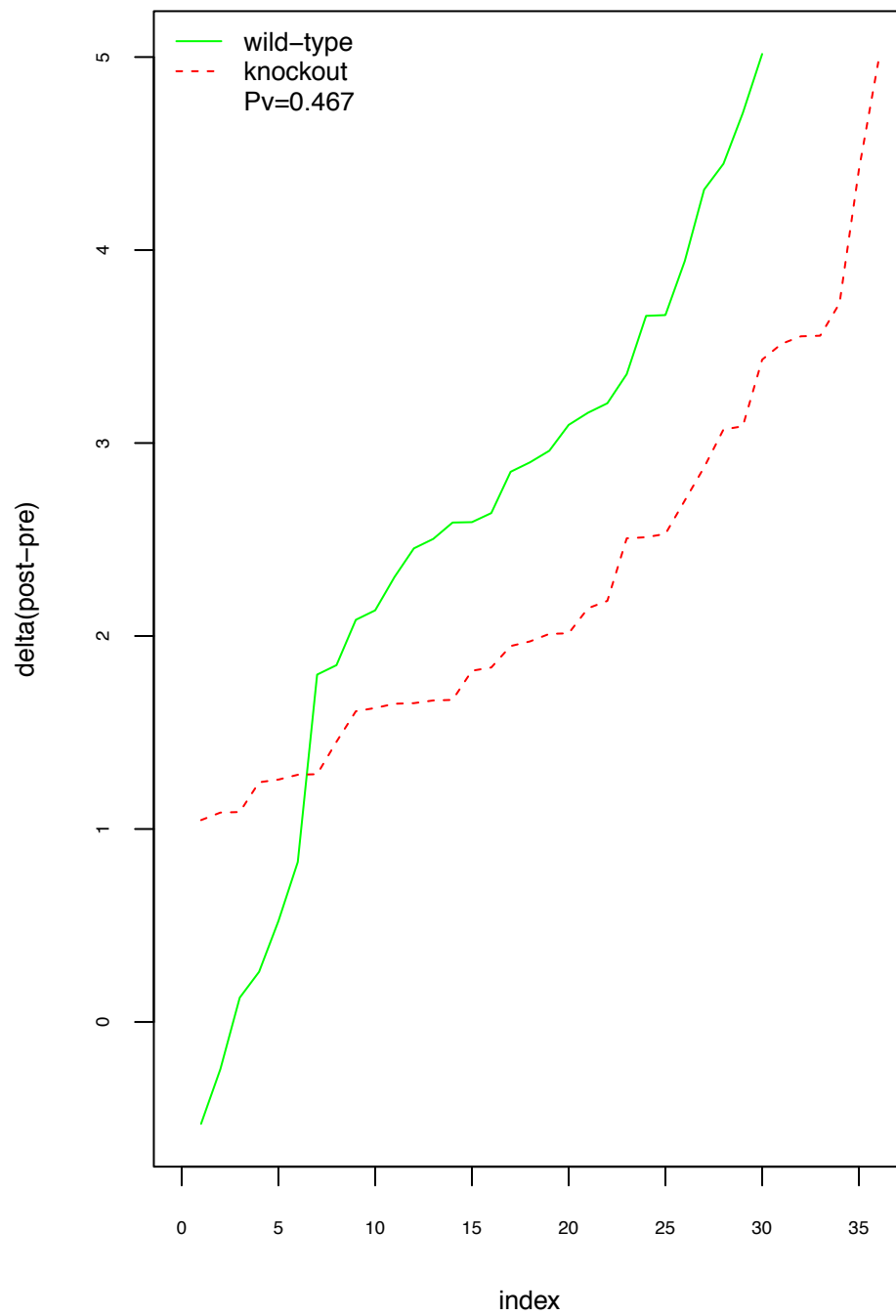
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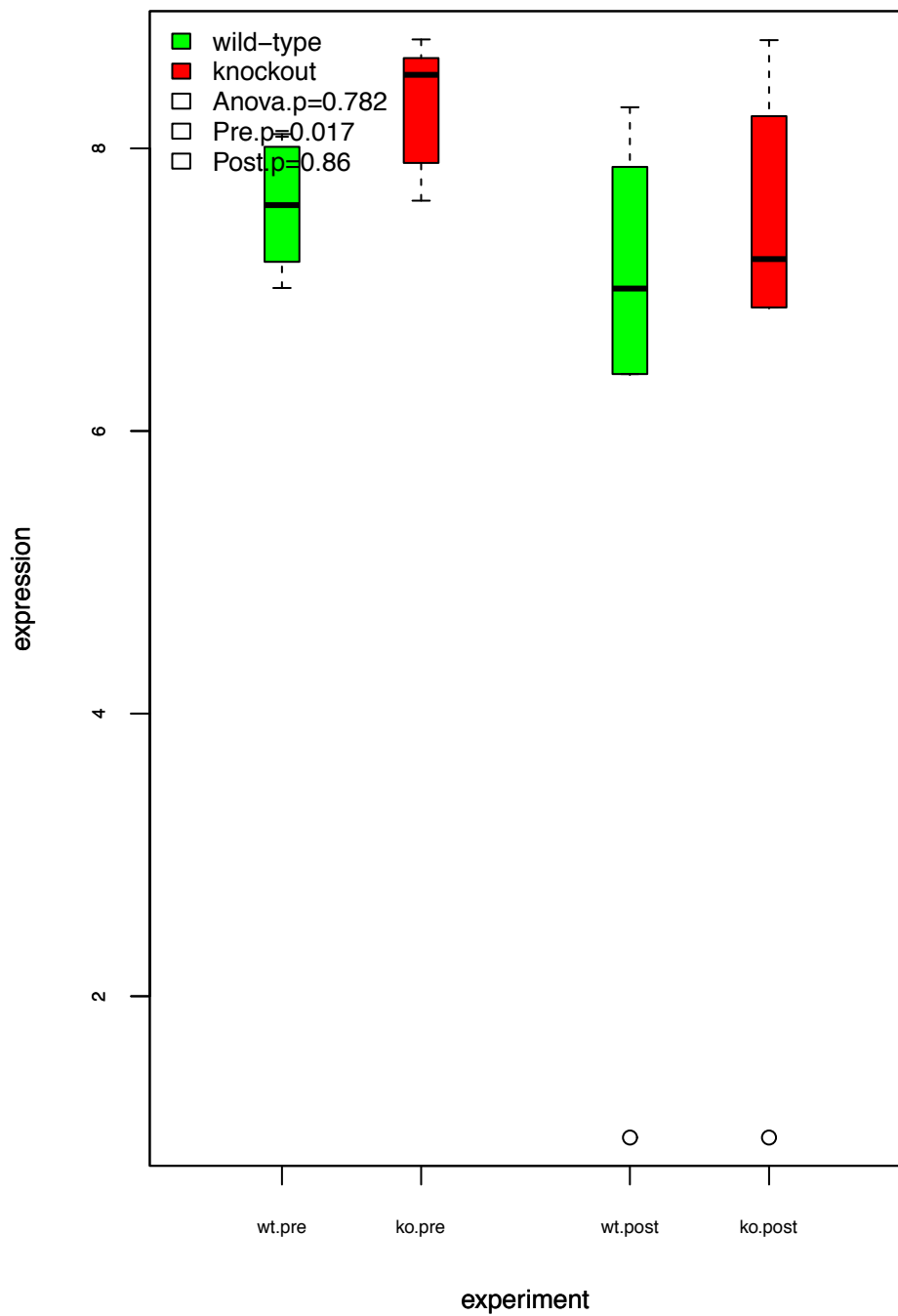
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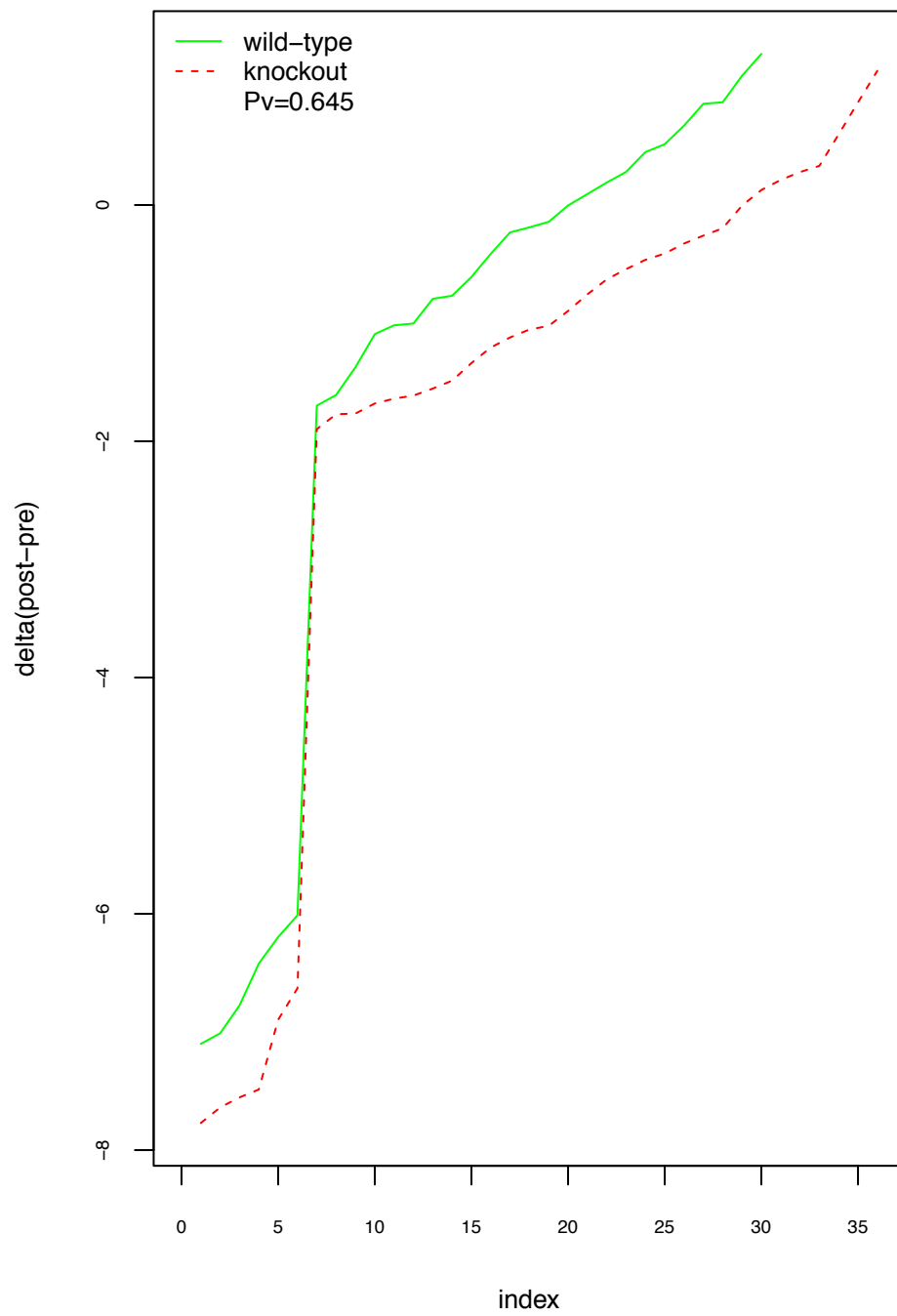
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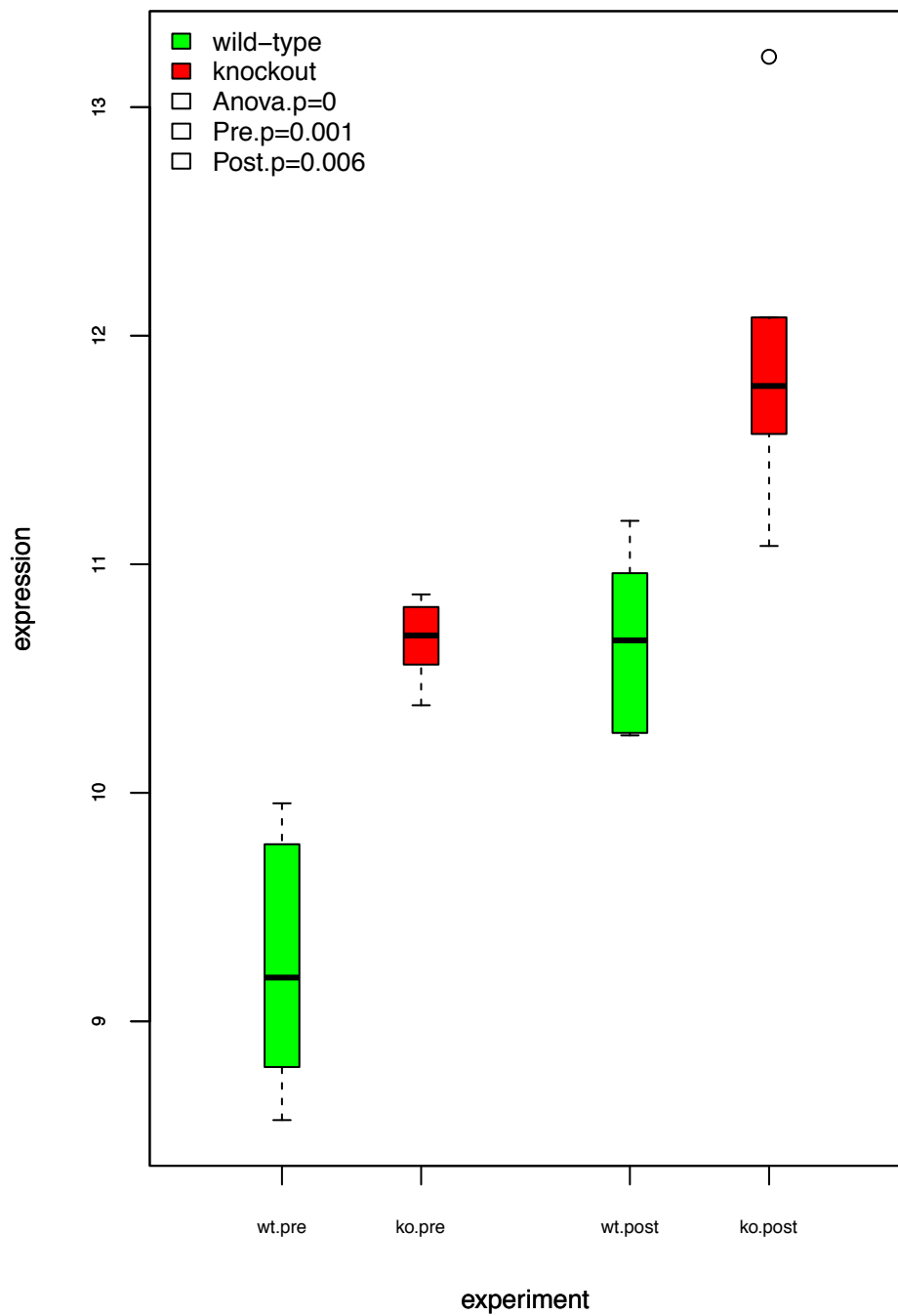
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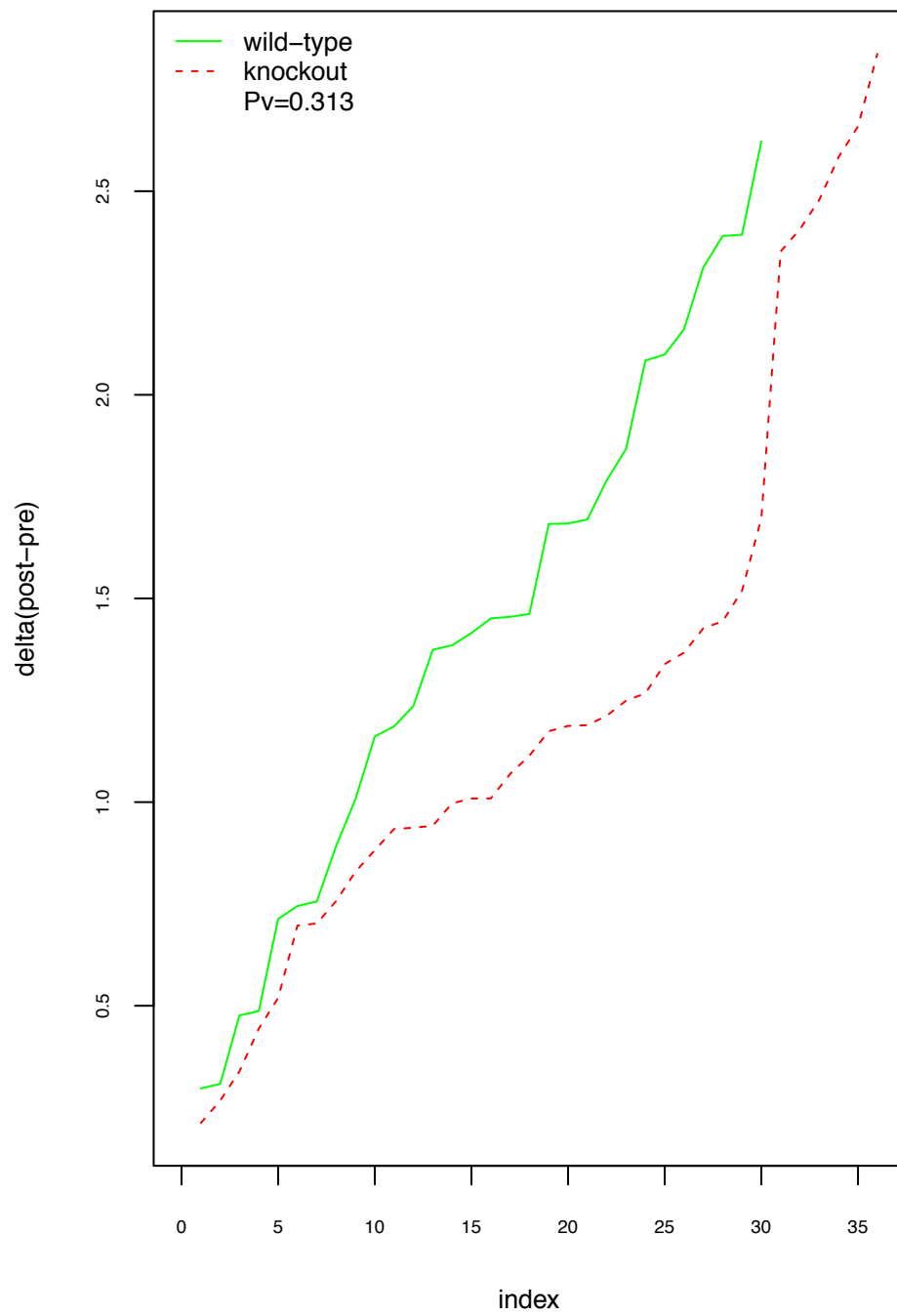
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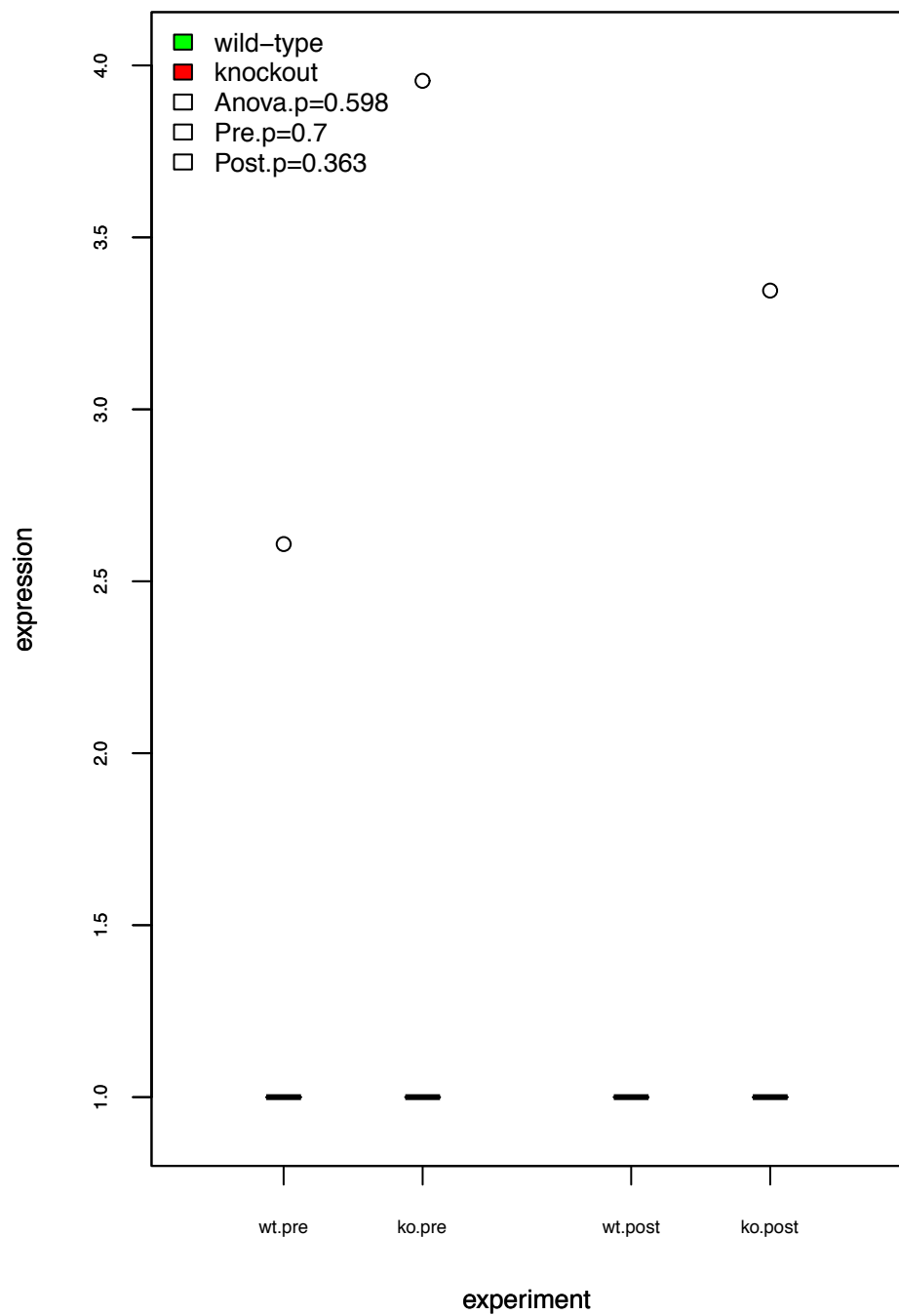
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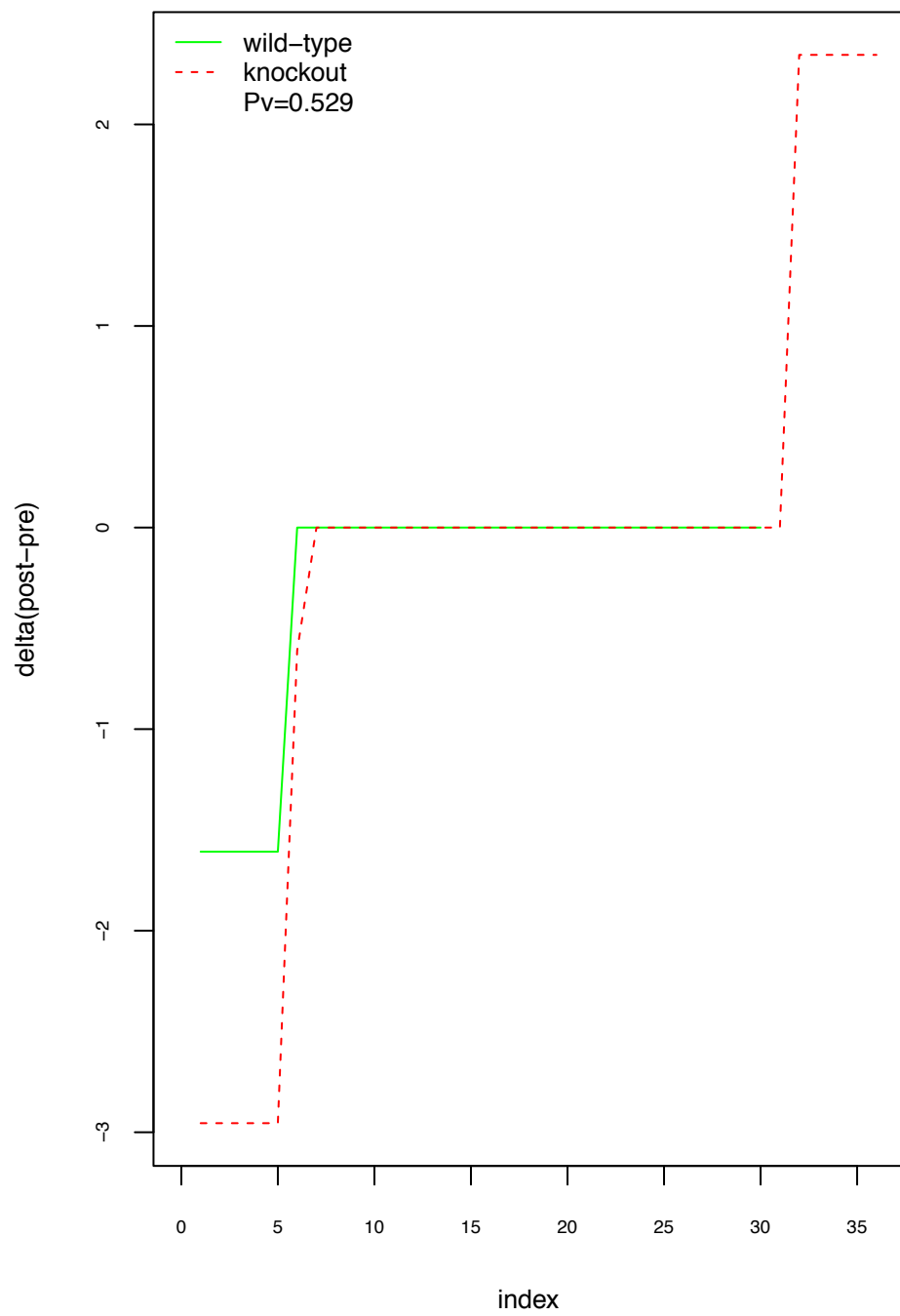
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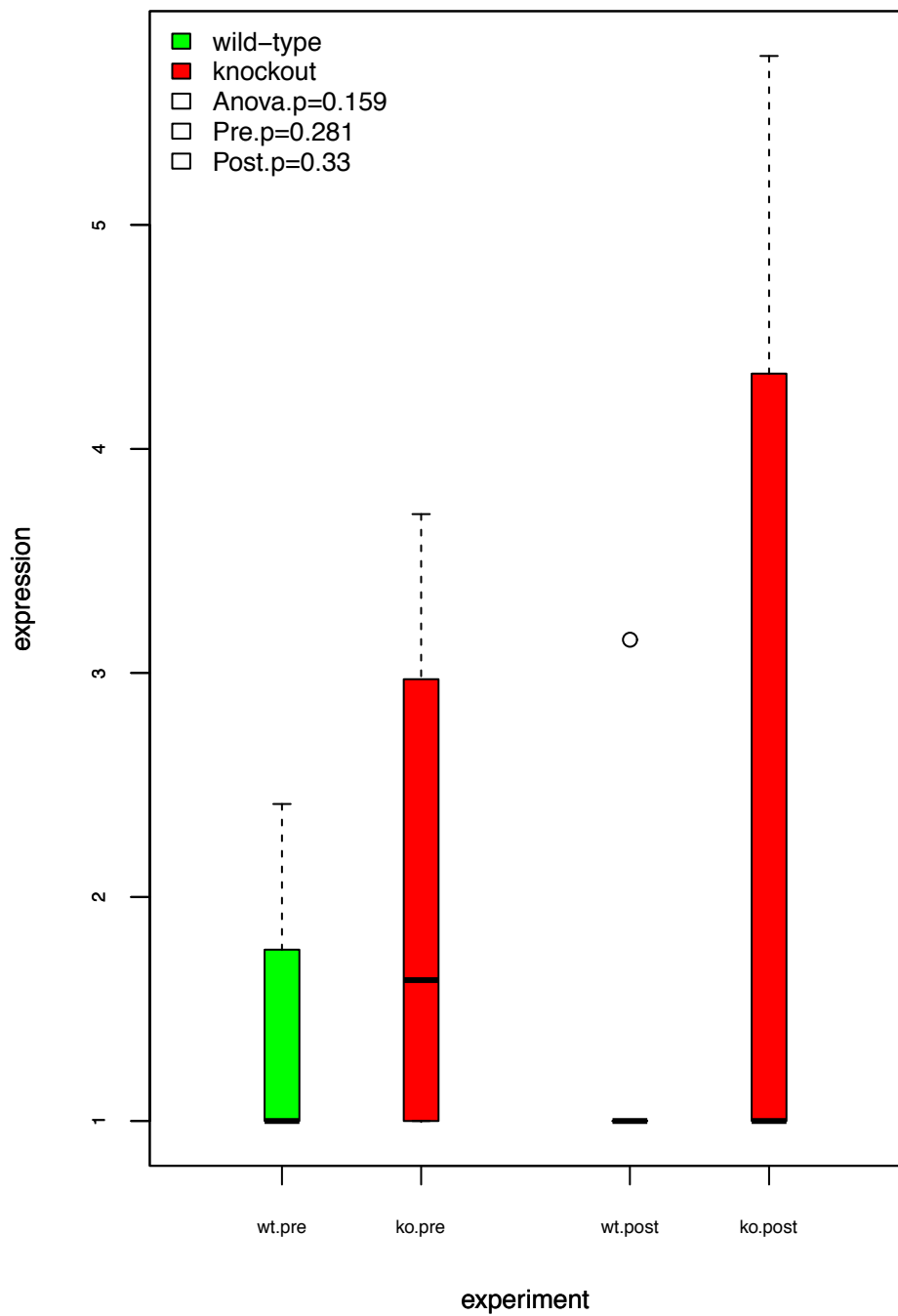
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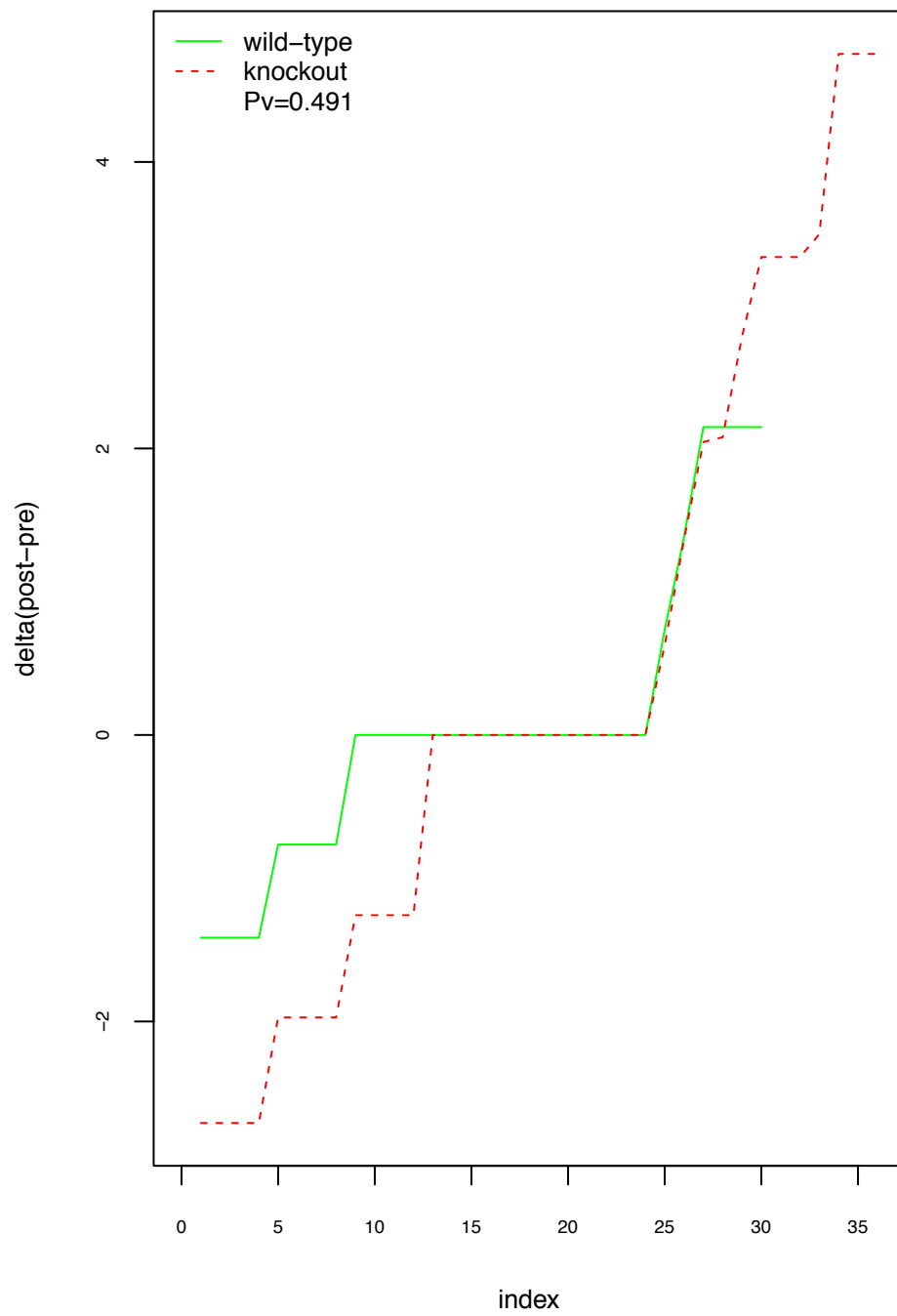
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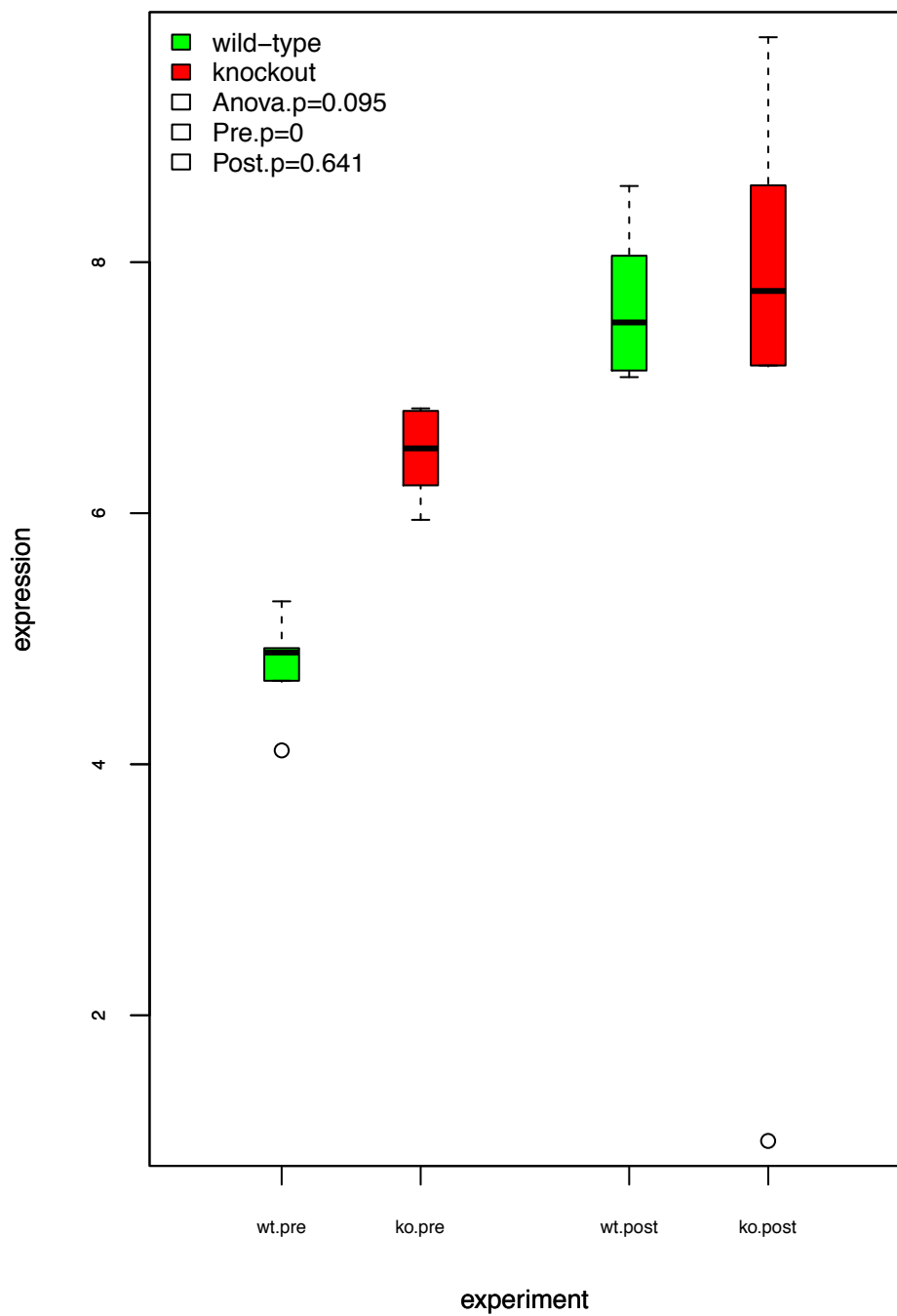
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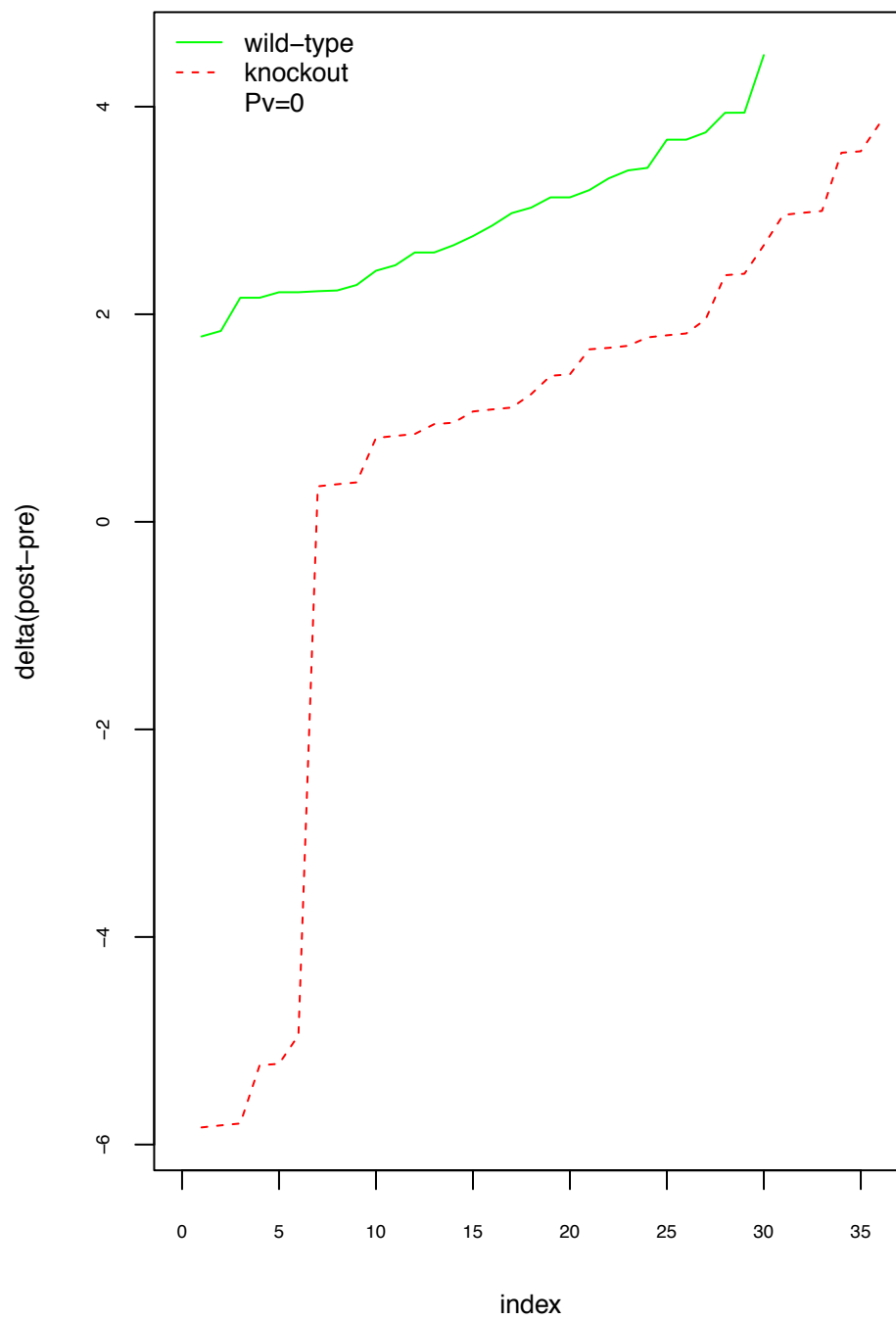
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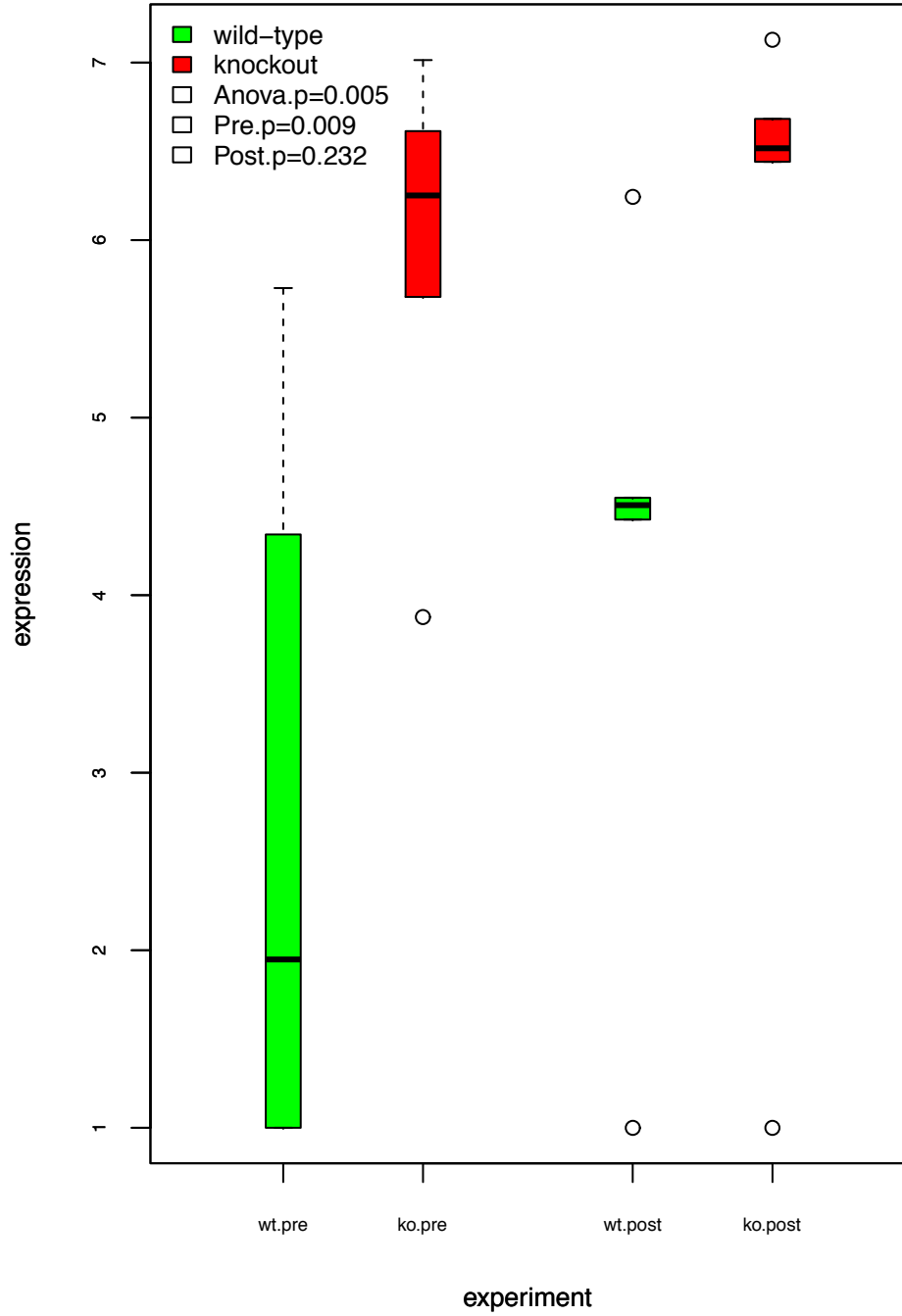
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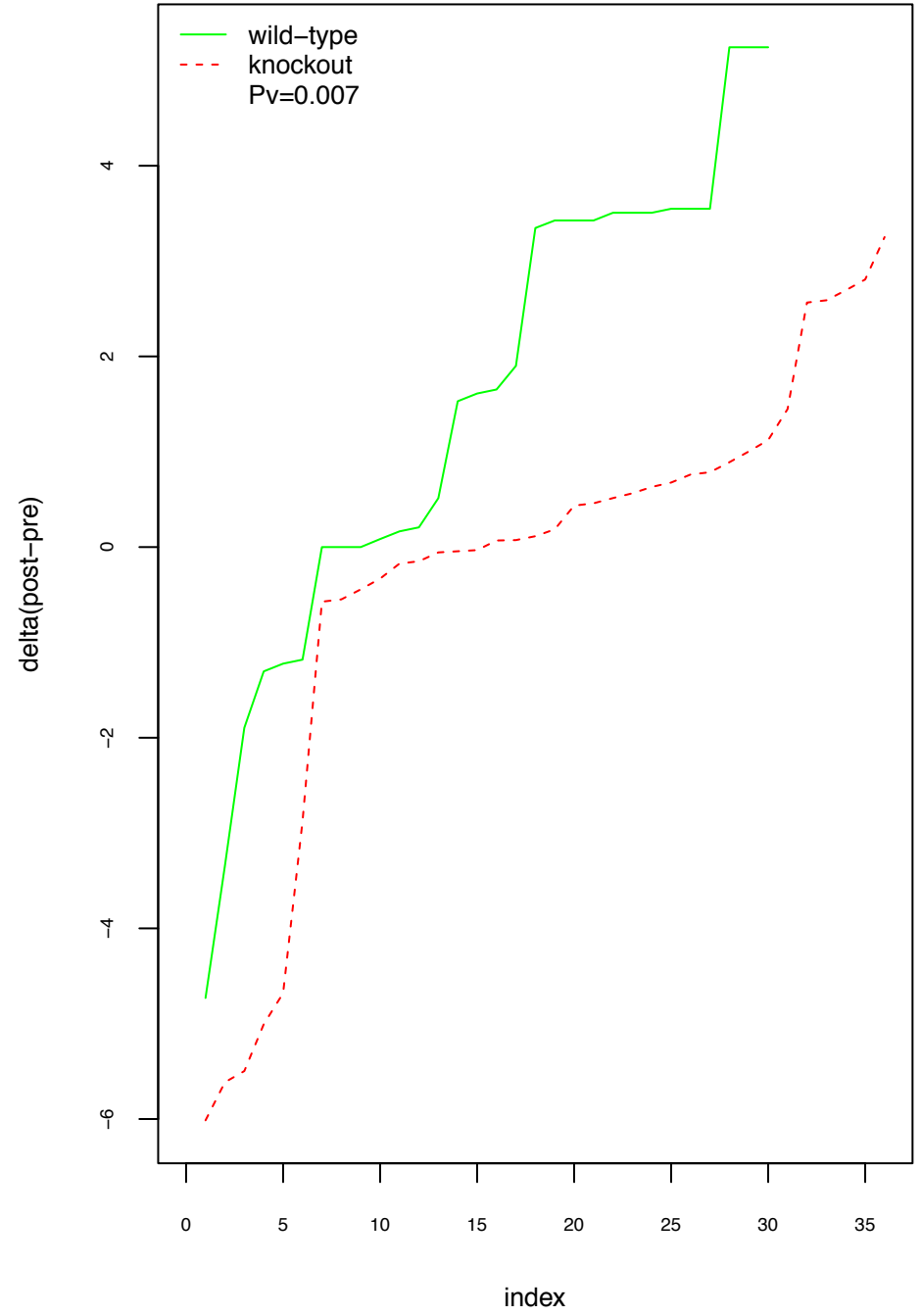
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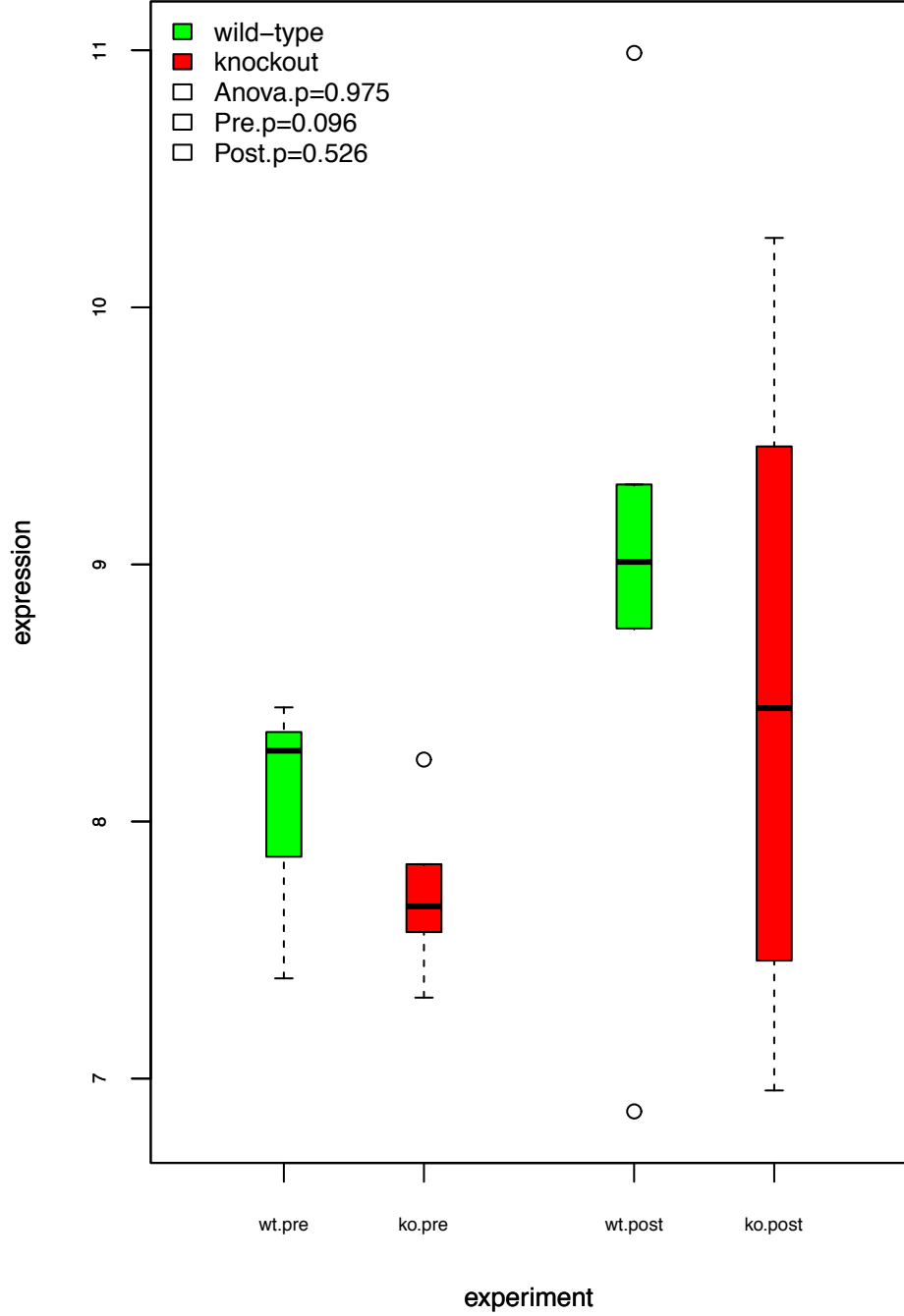
Grem2



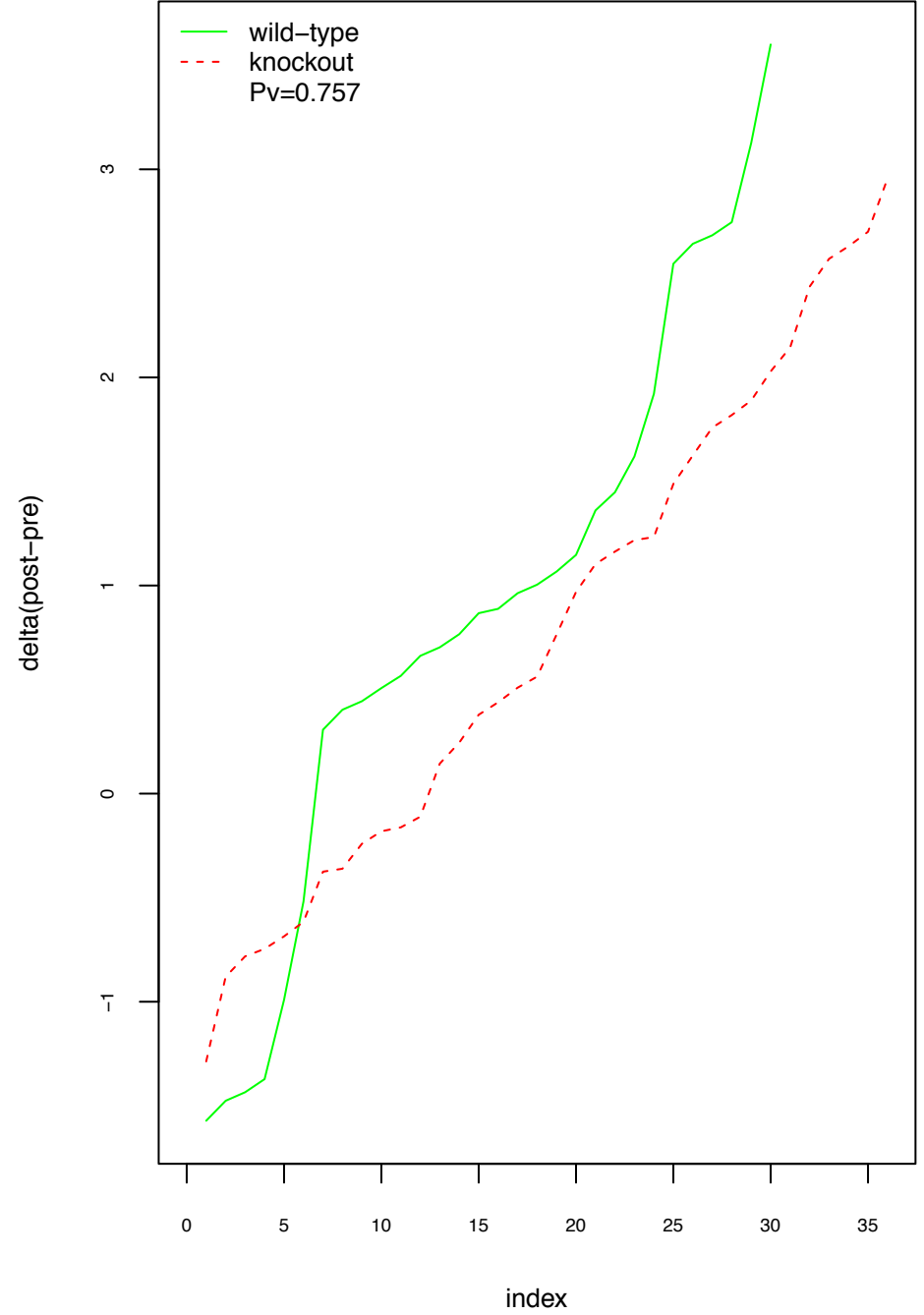
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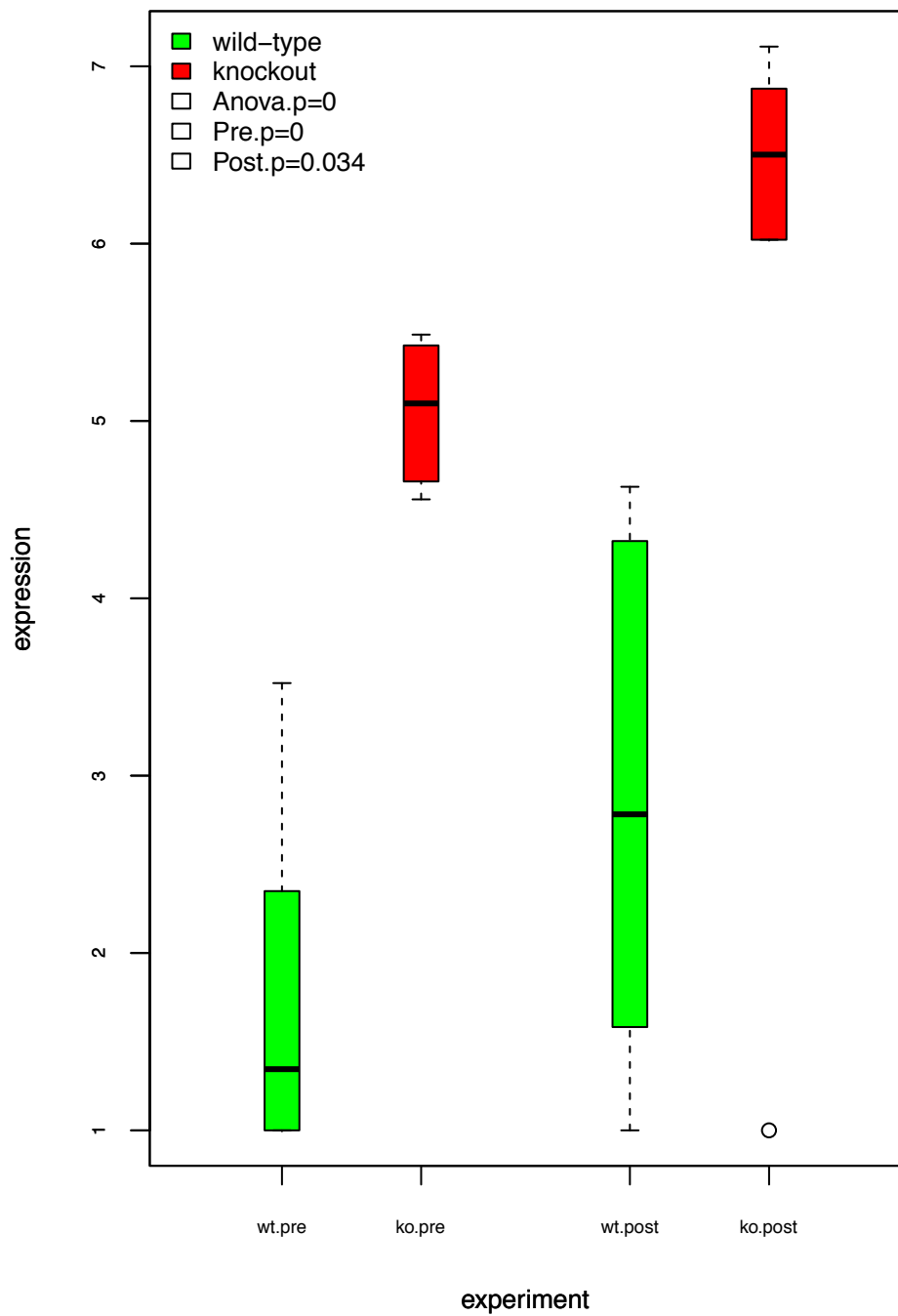
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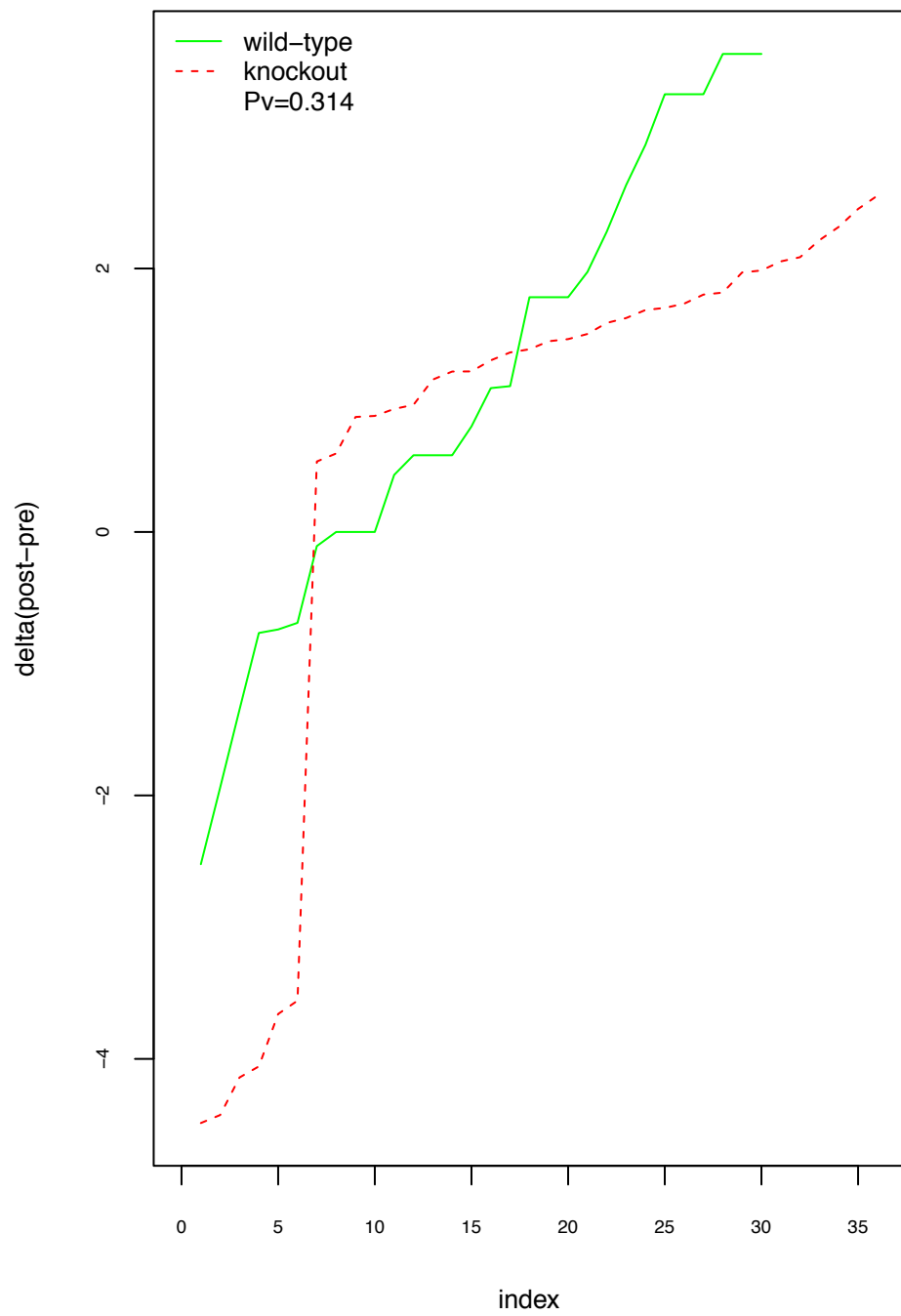
Grem1



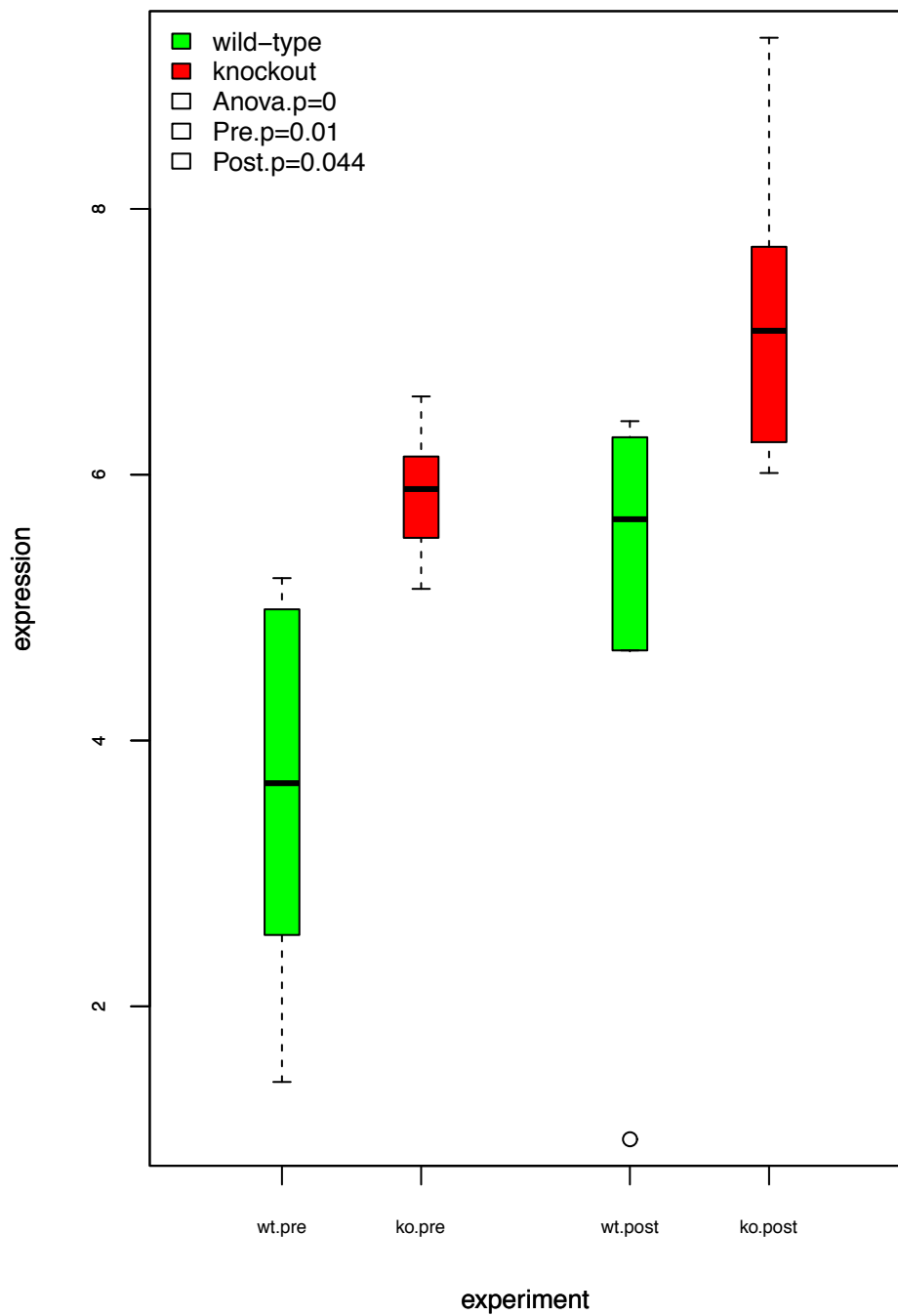
Gli2



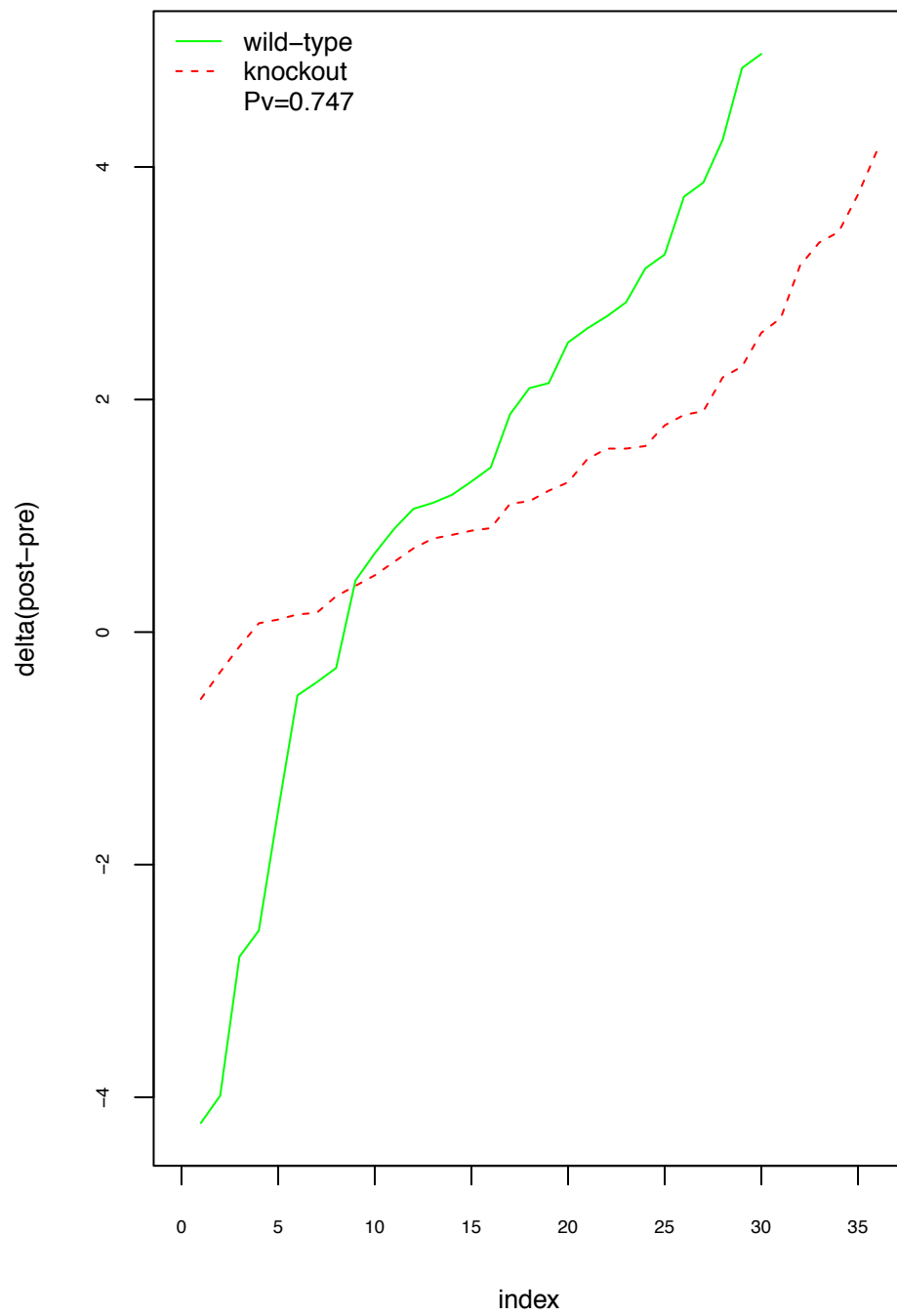
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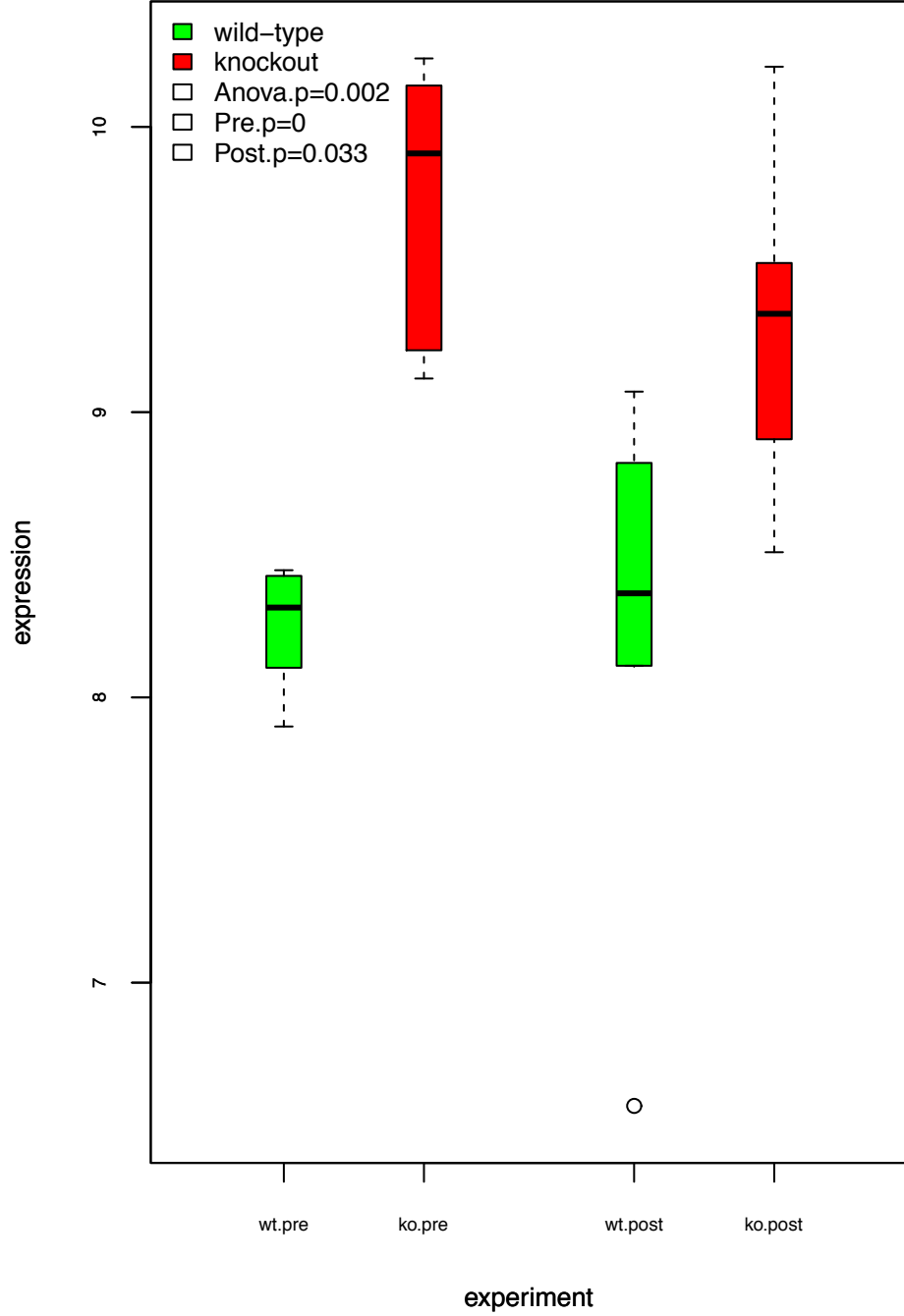
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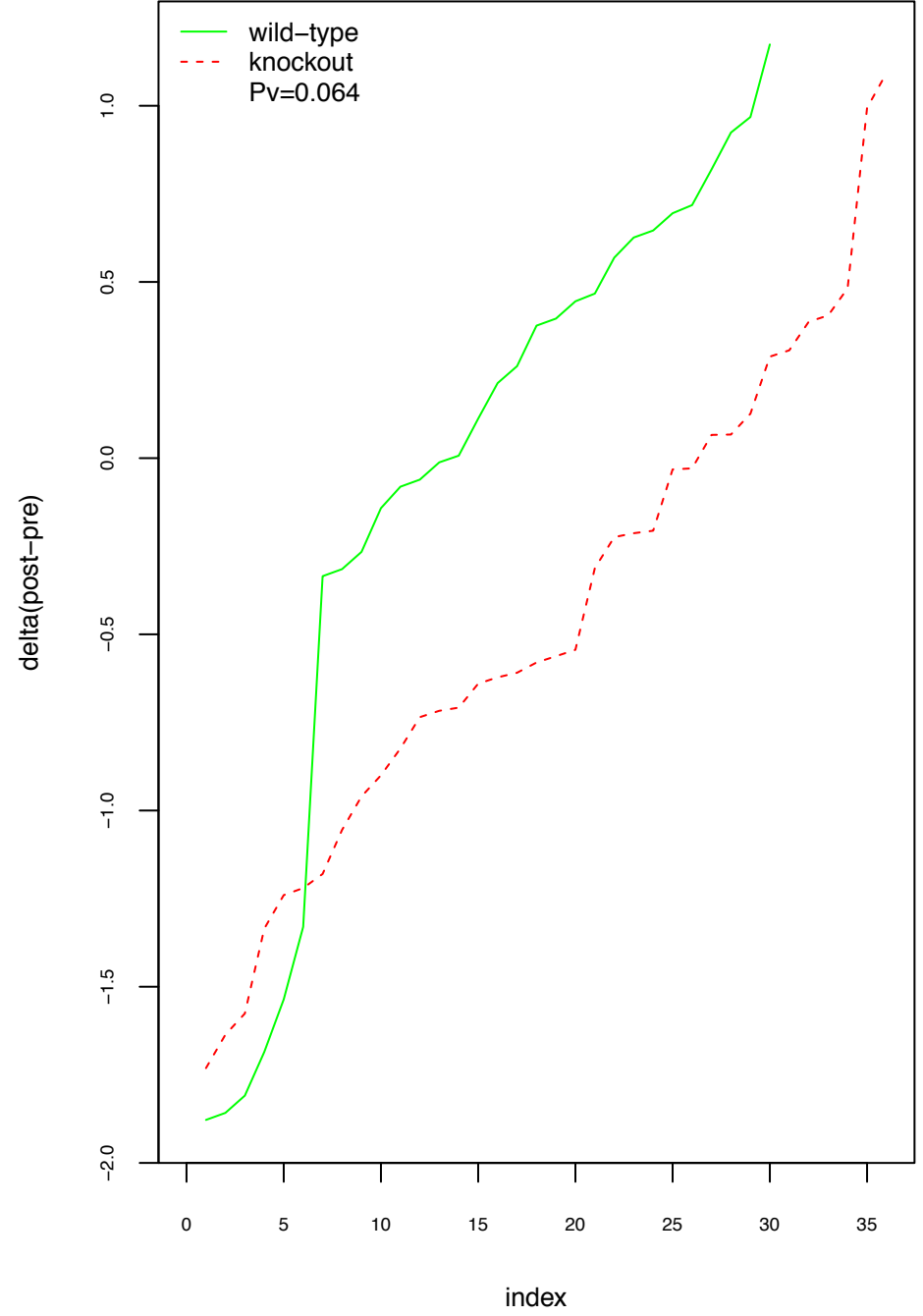
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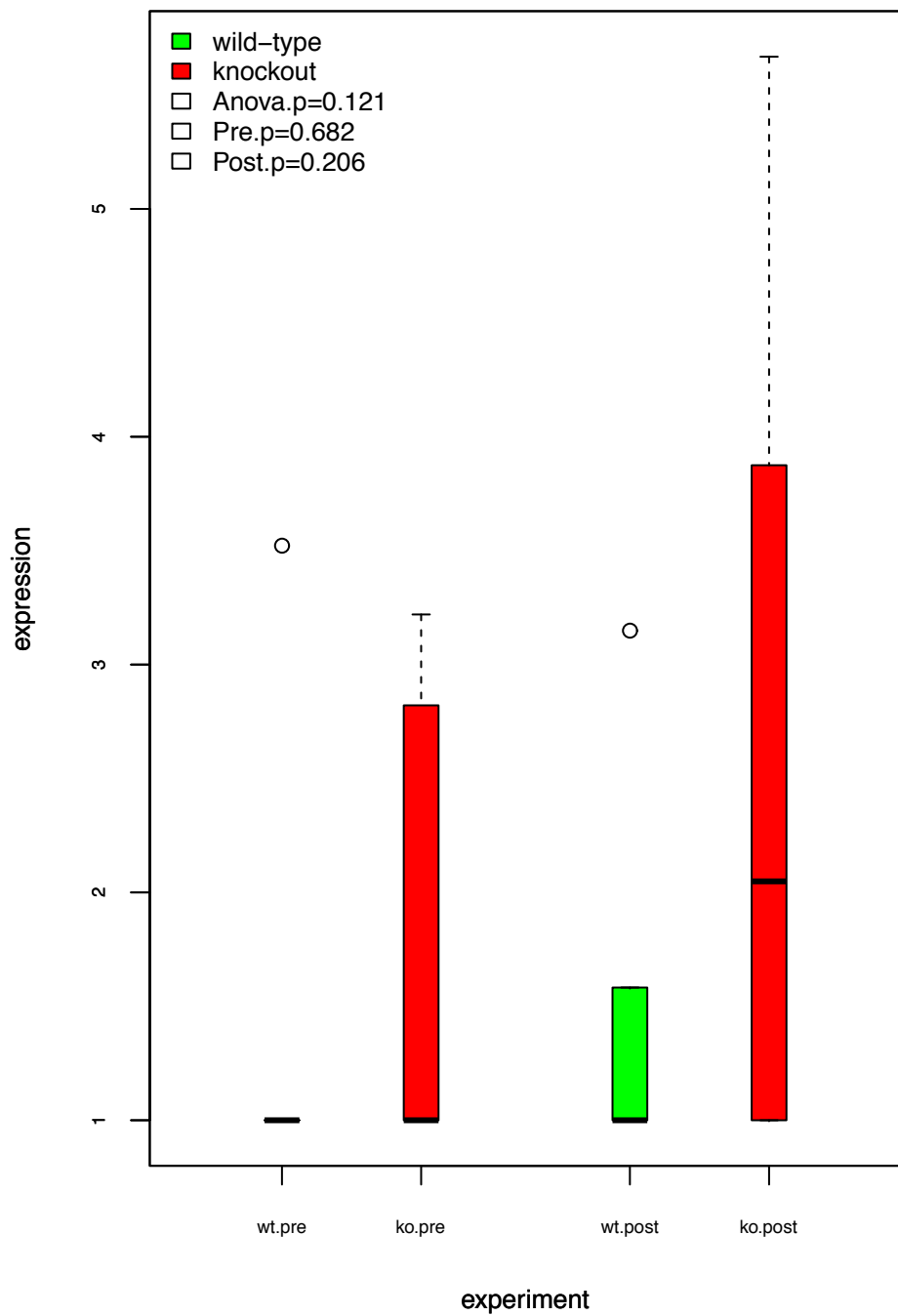
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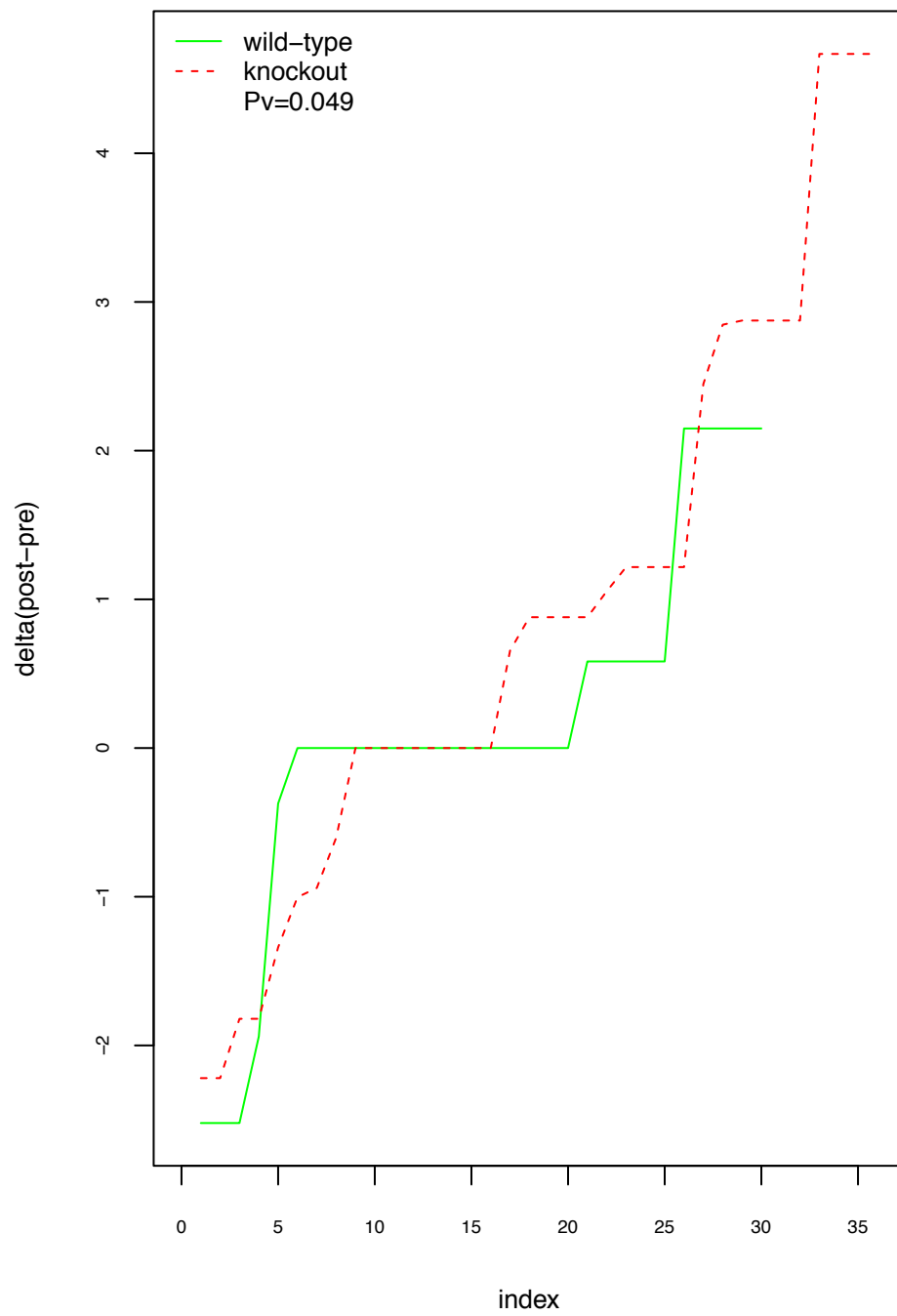
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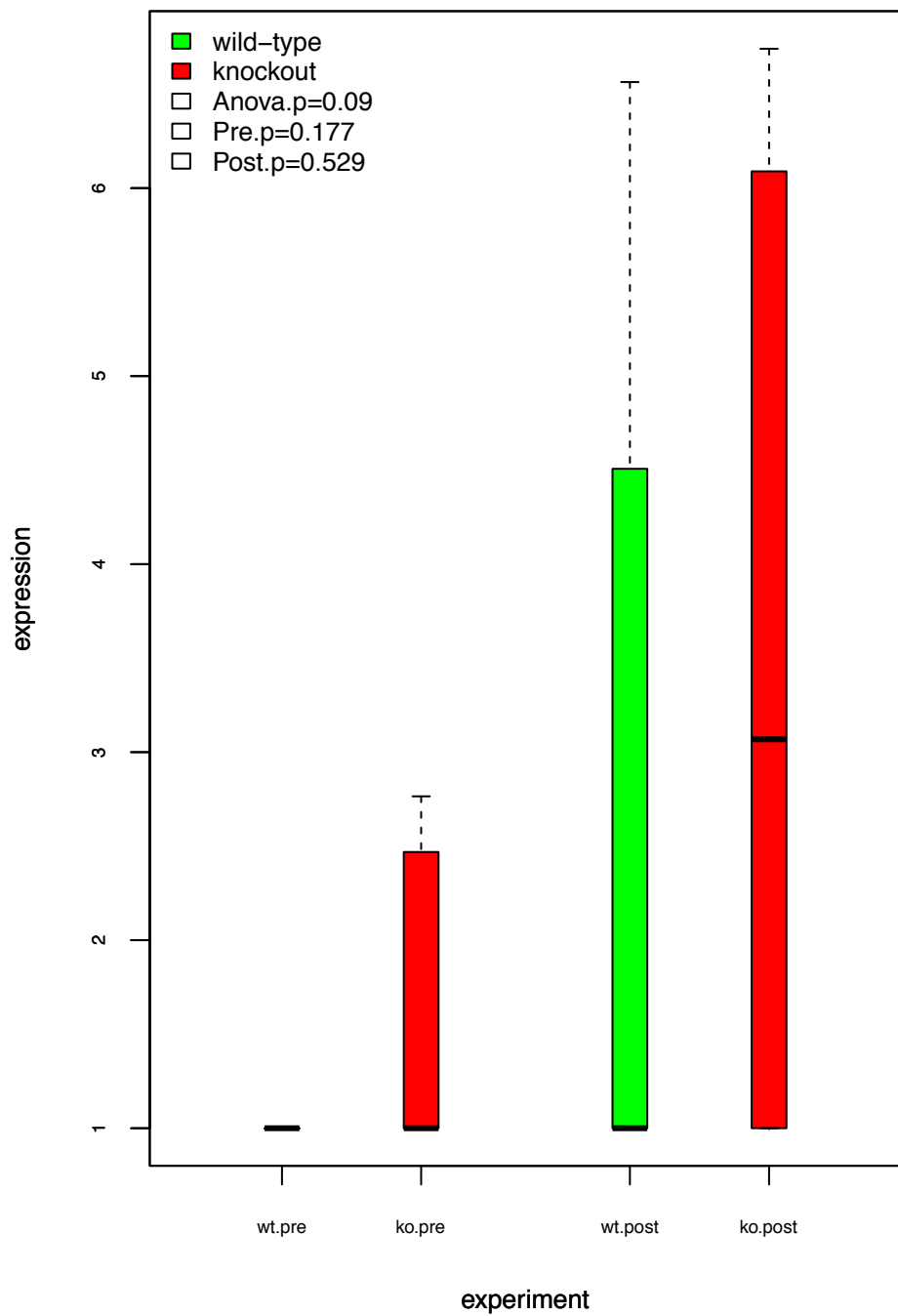
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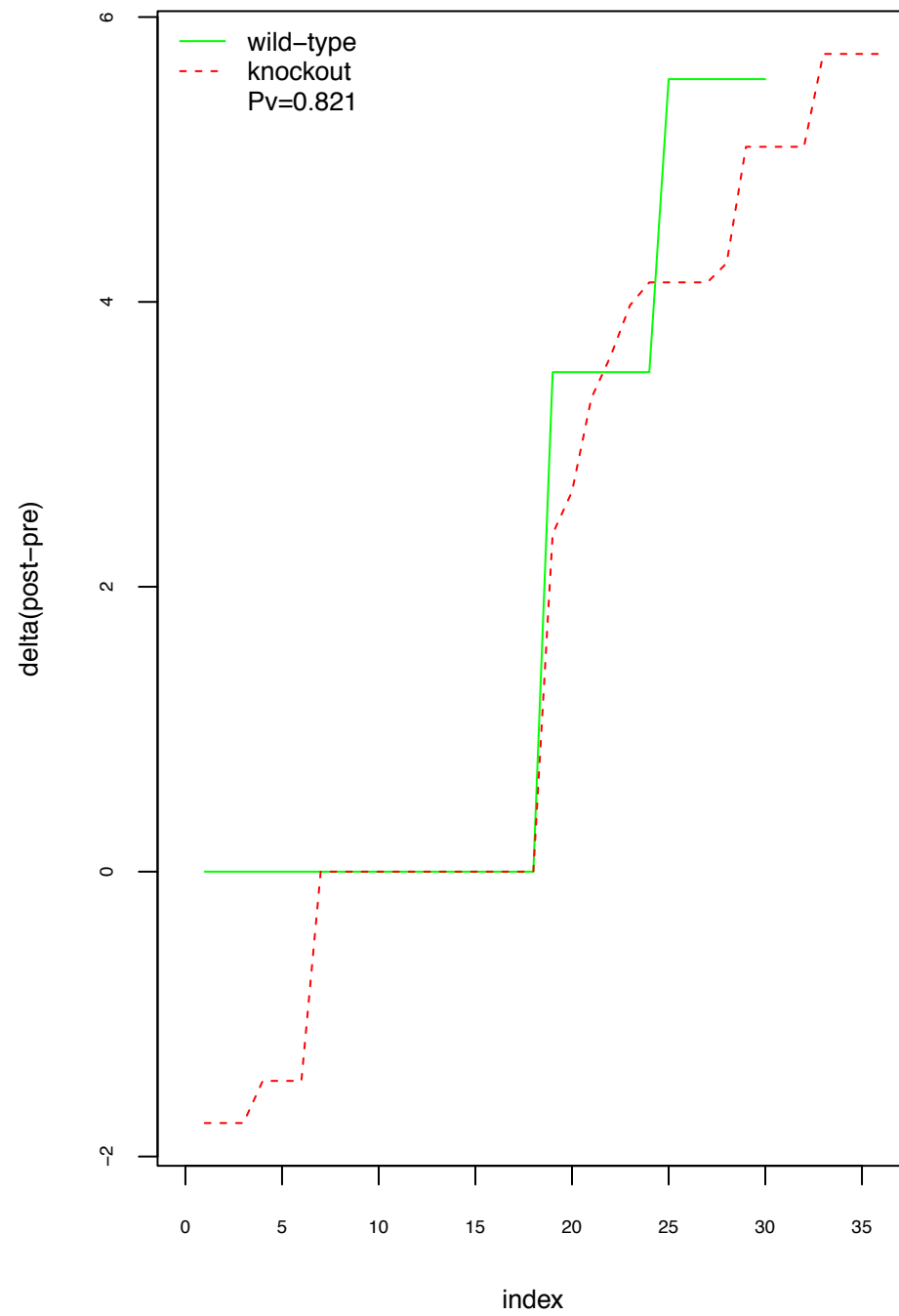
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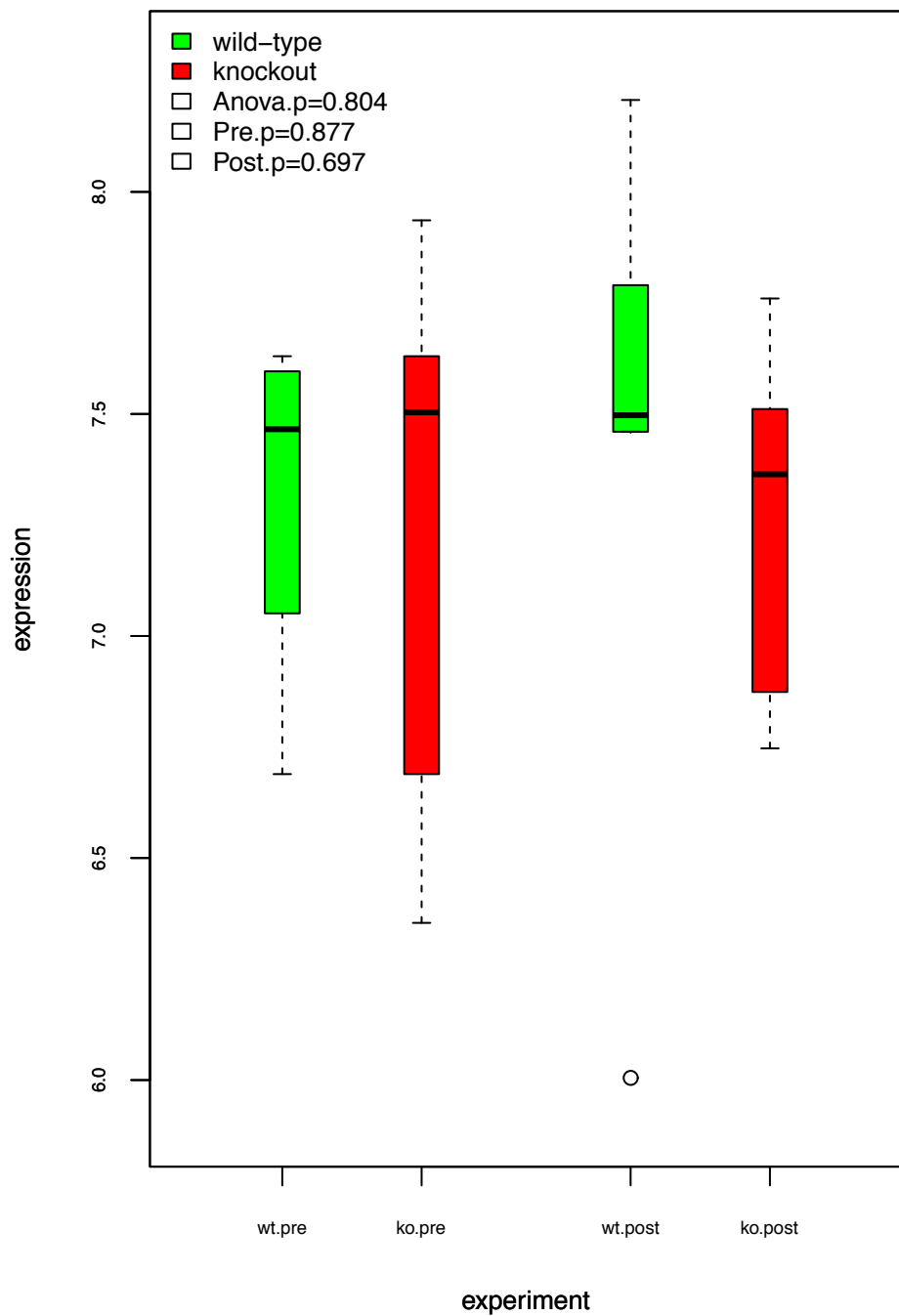
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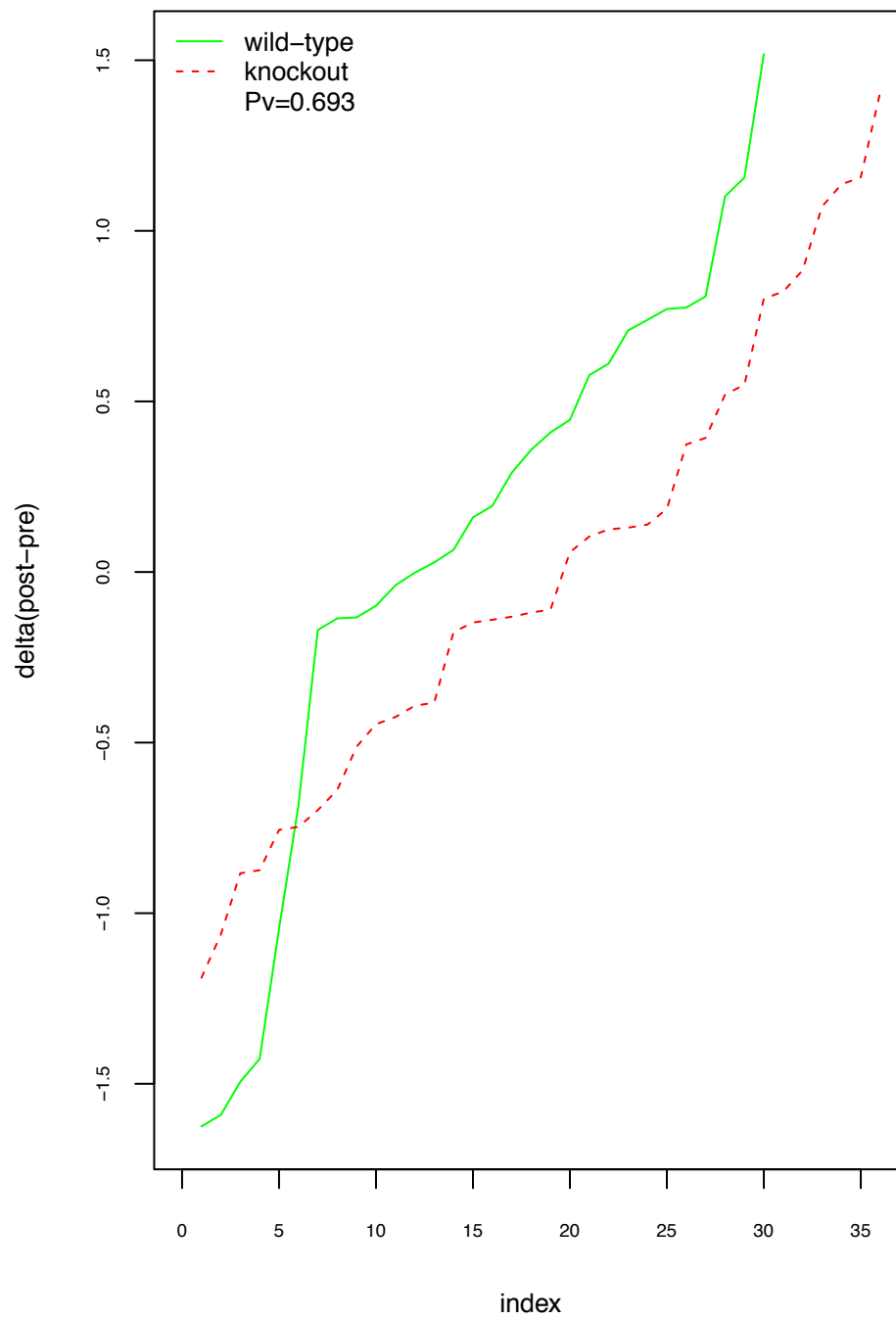
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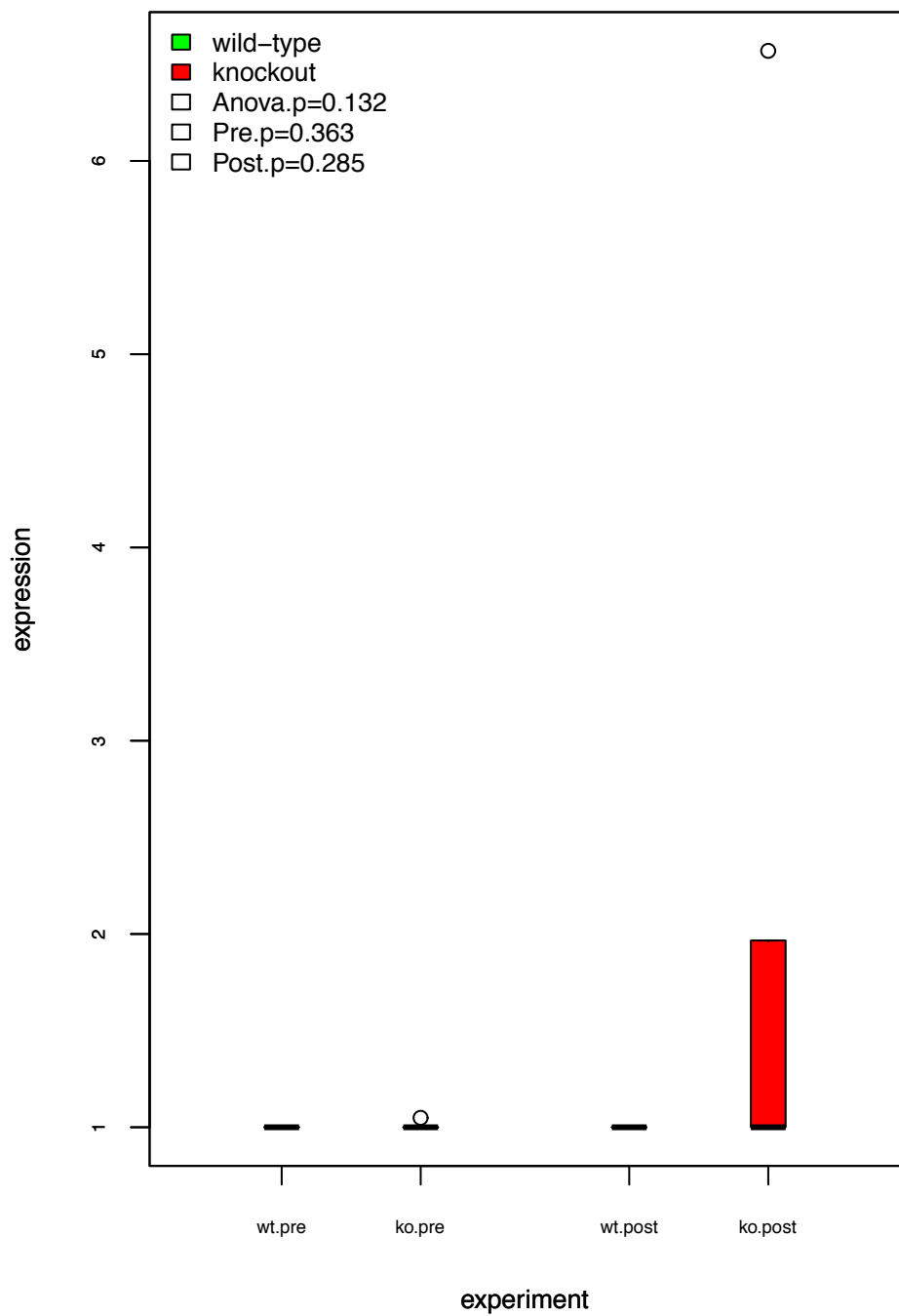
Gata2



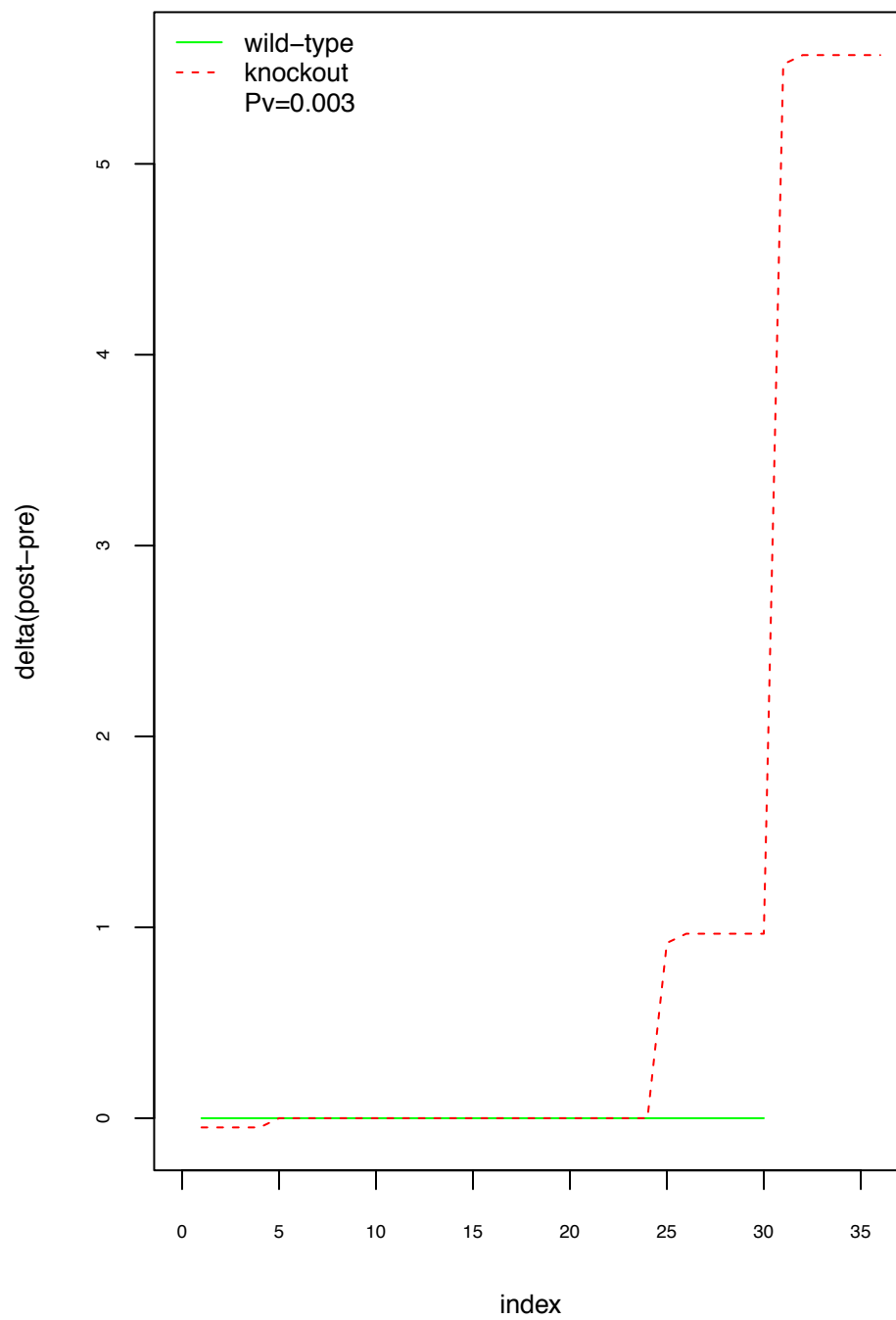
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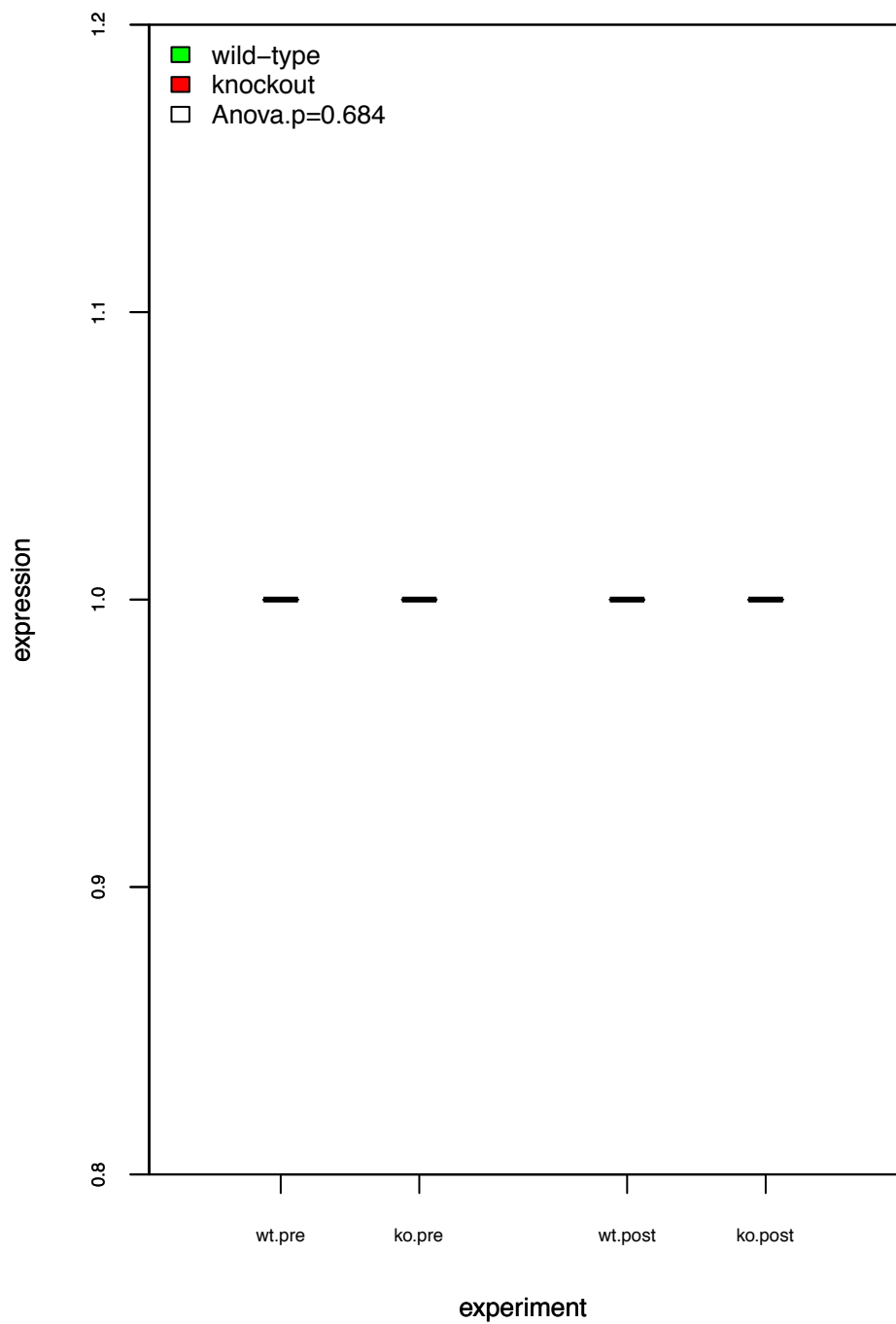
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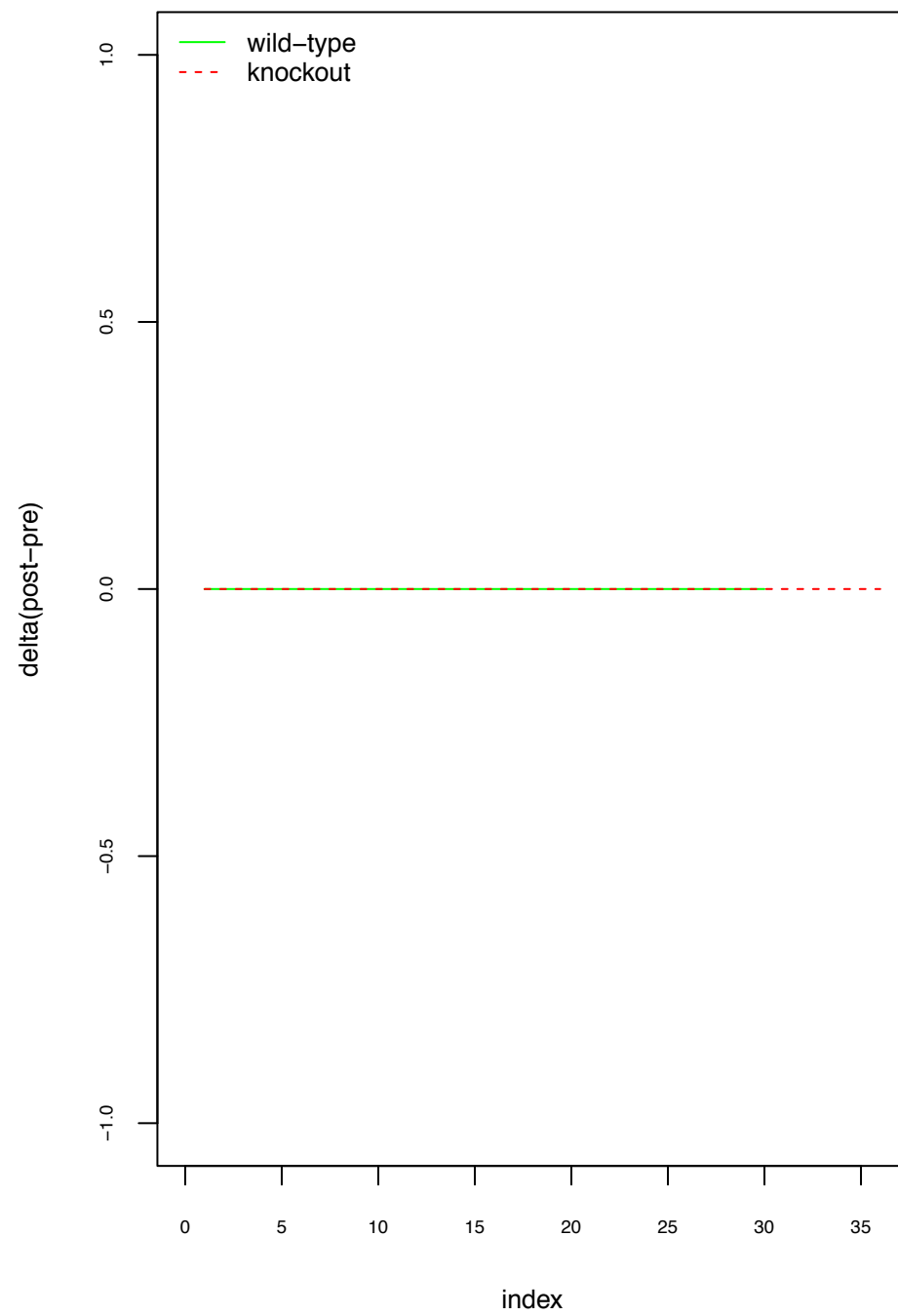
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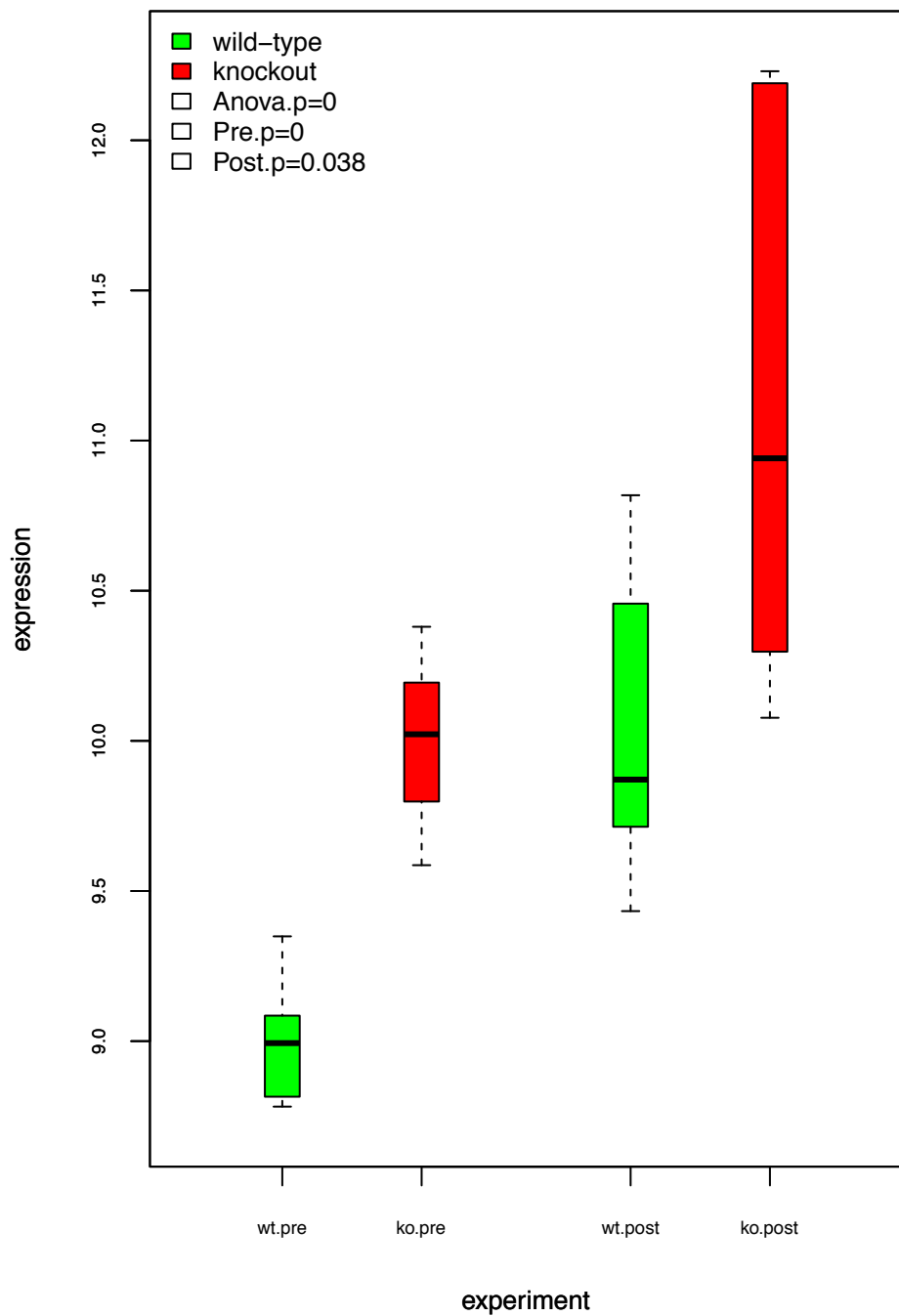
Ihh



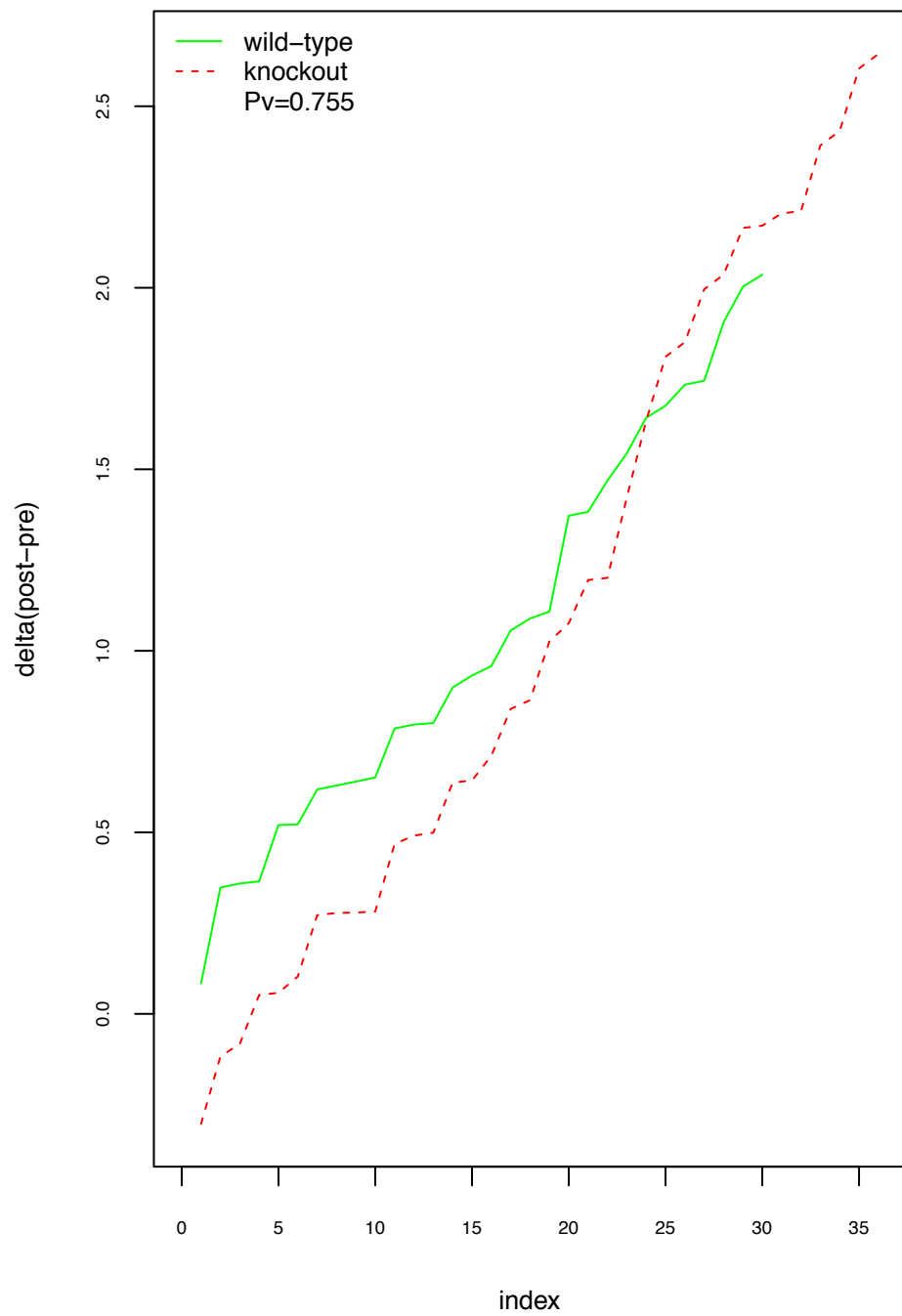
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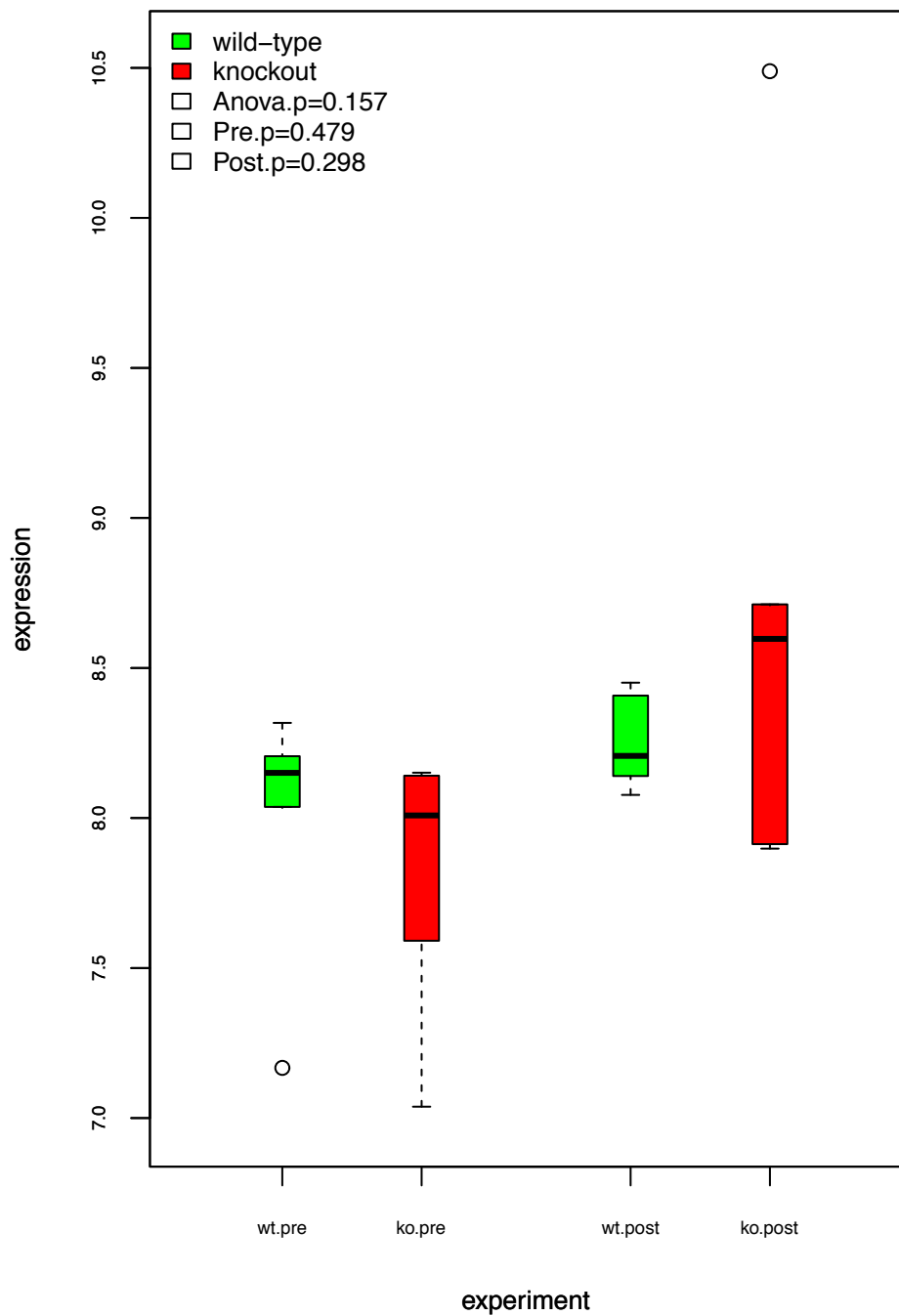
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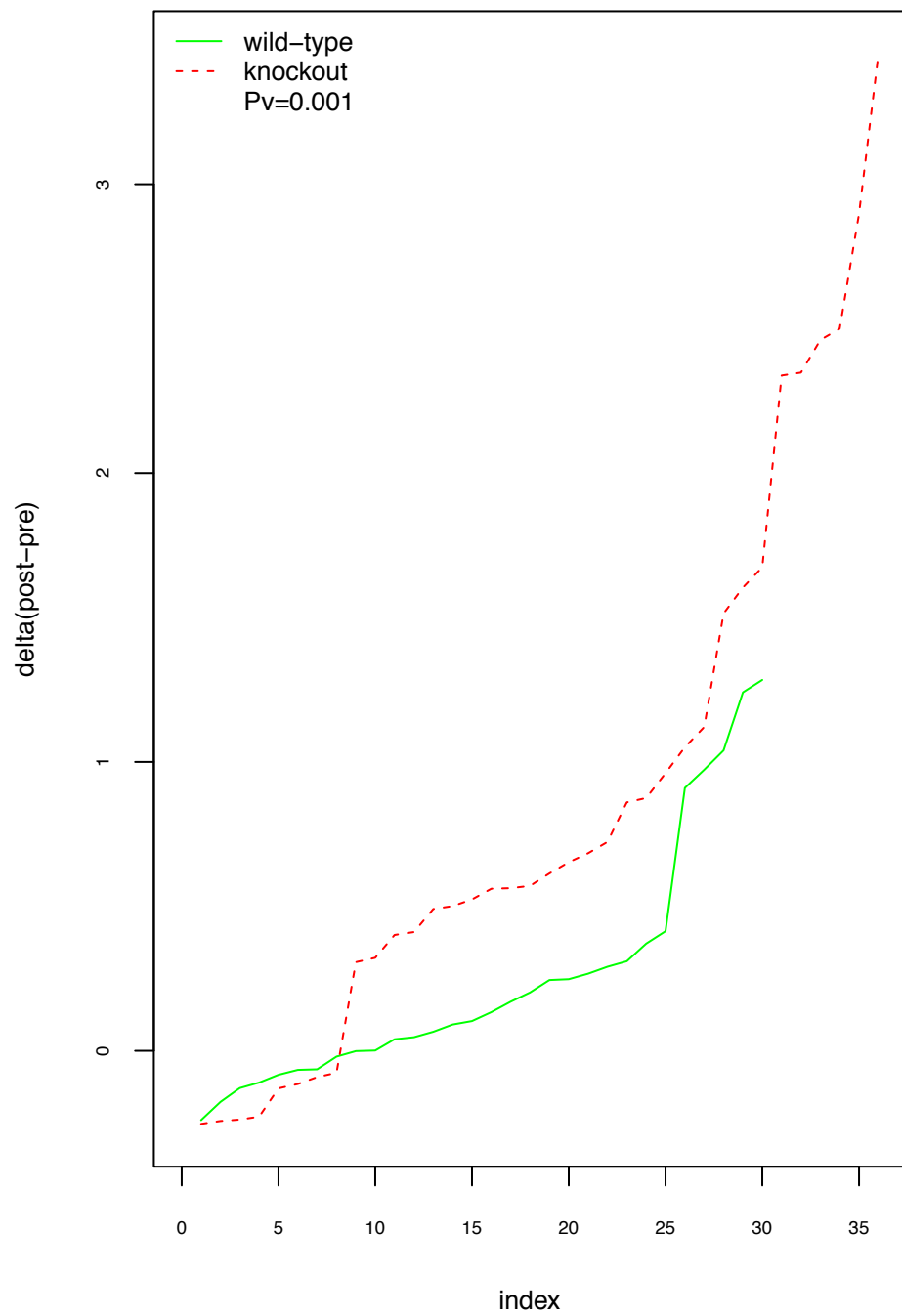
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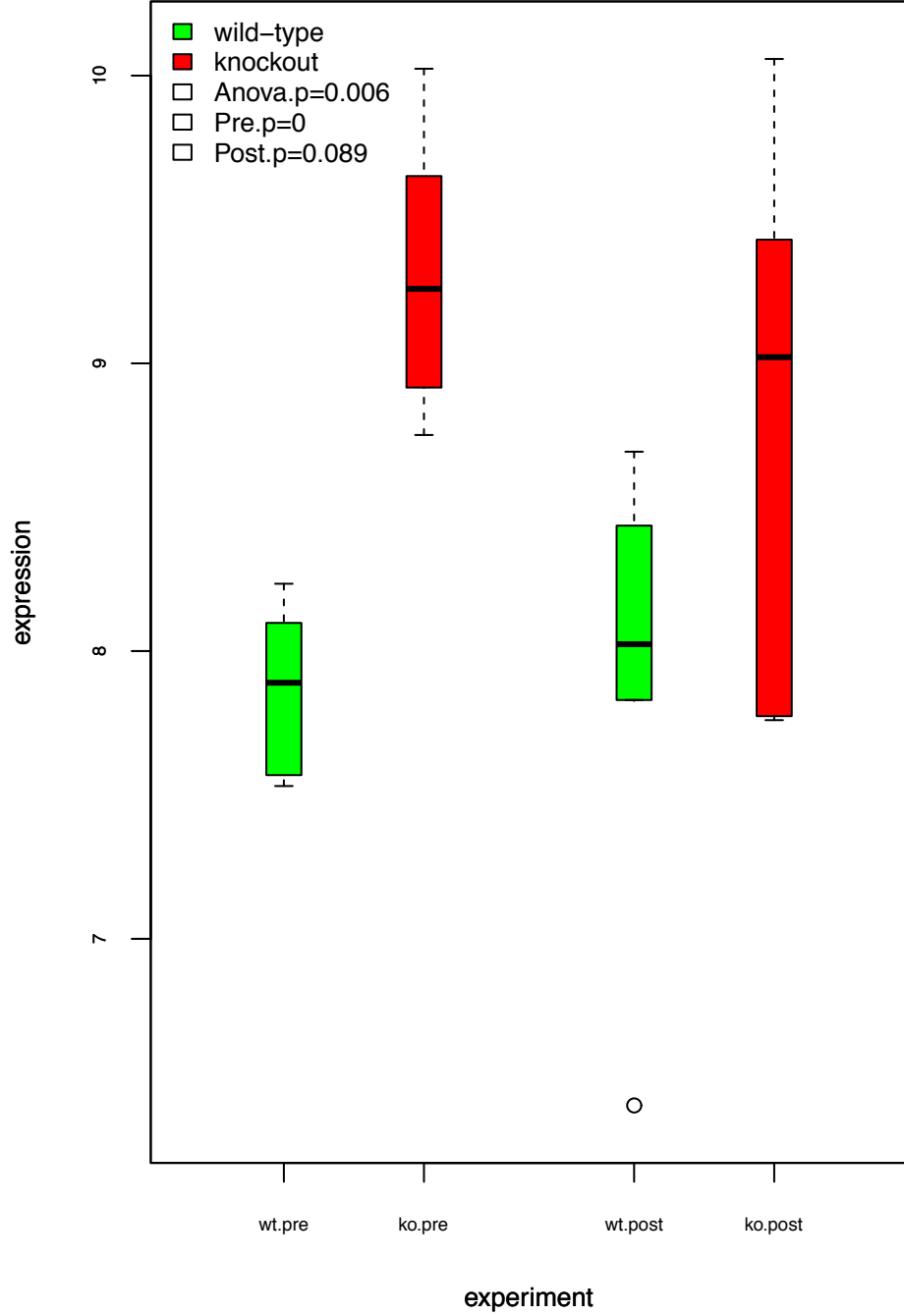
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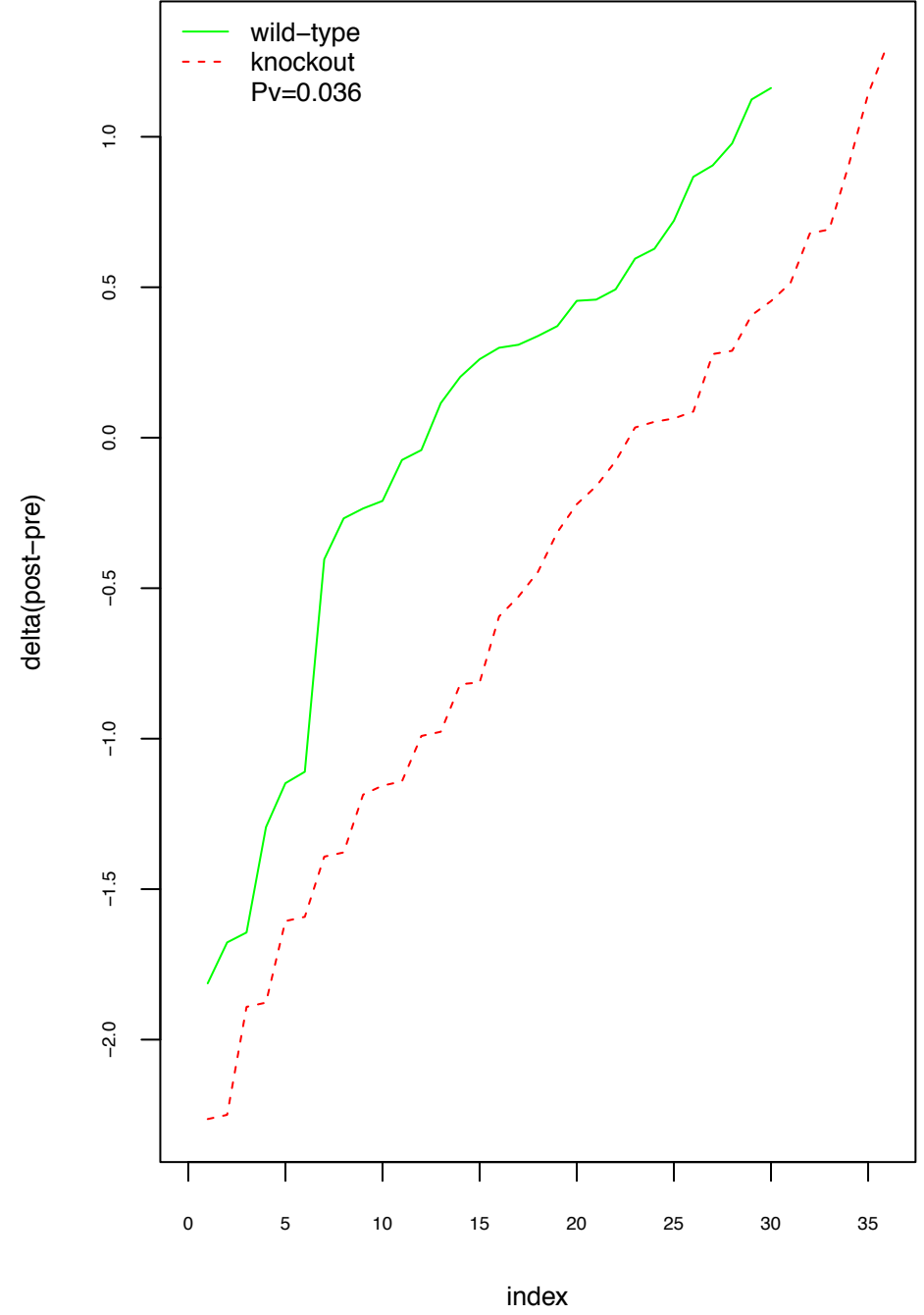
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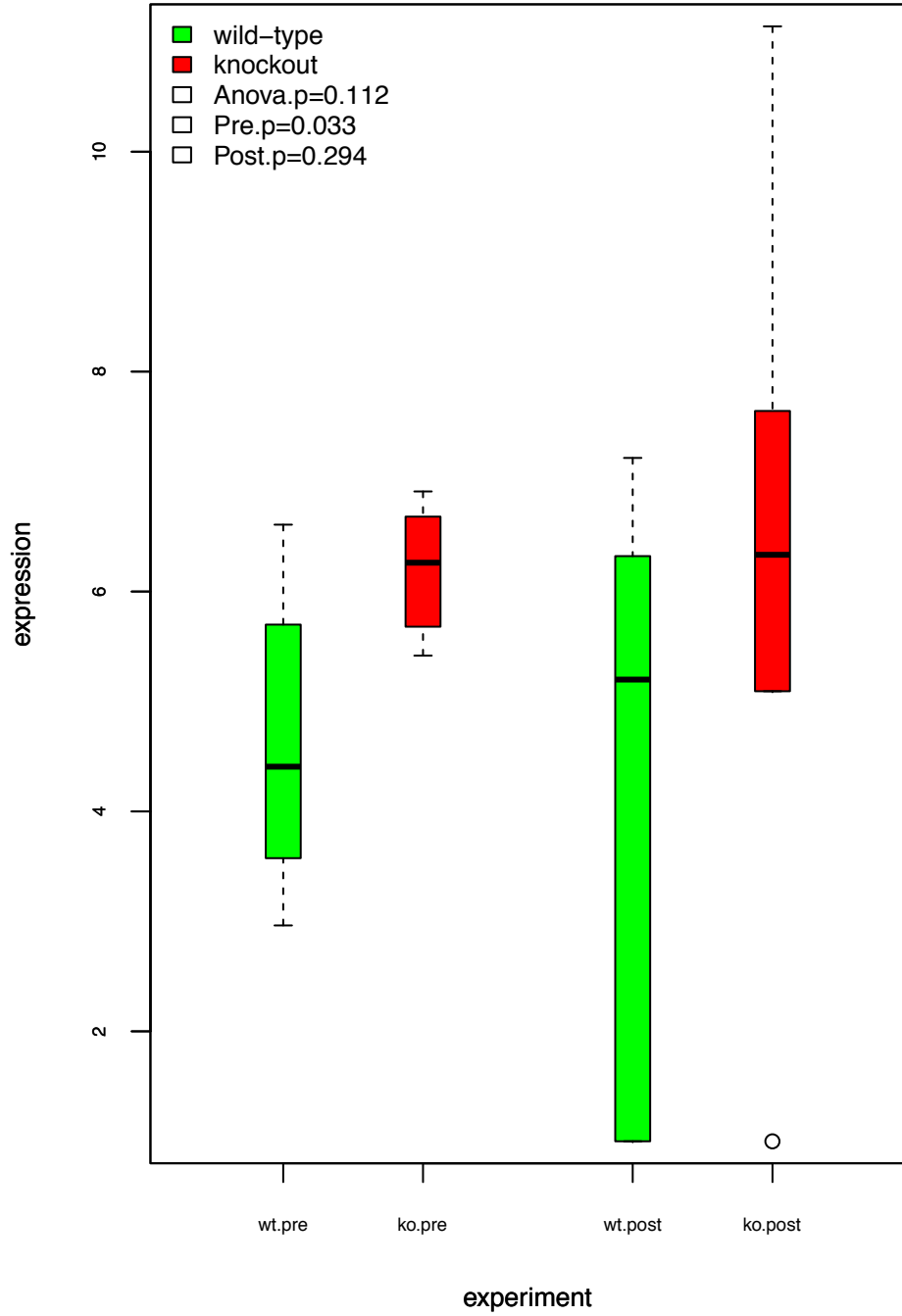
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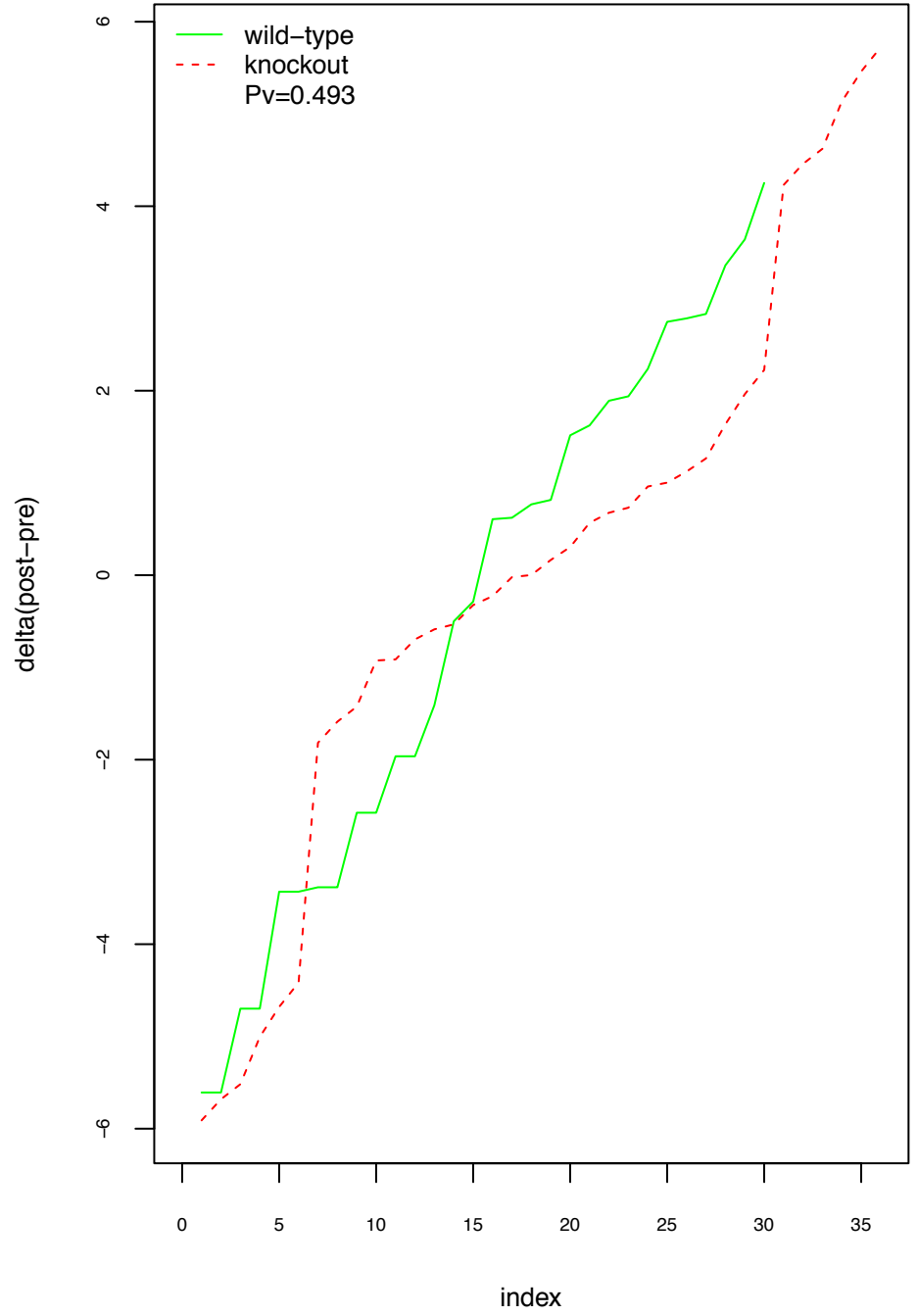
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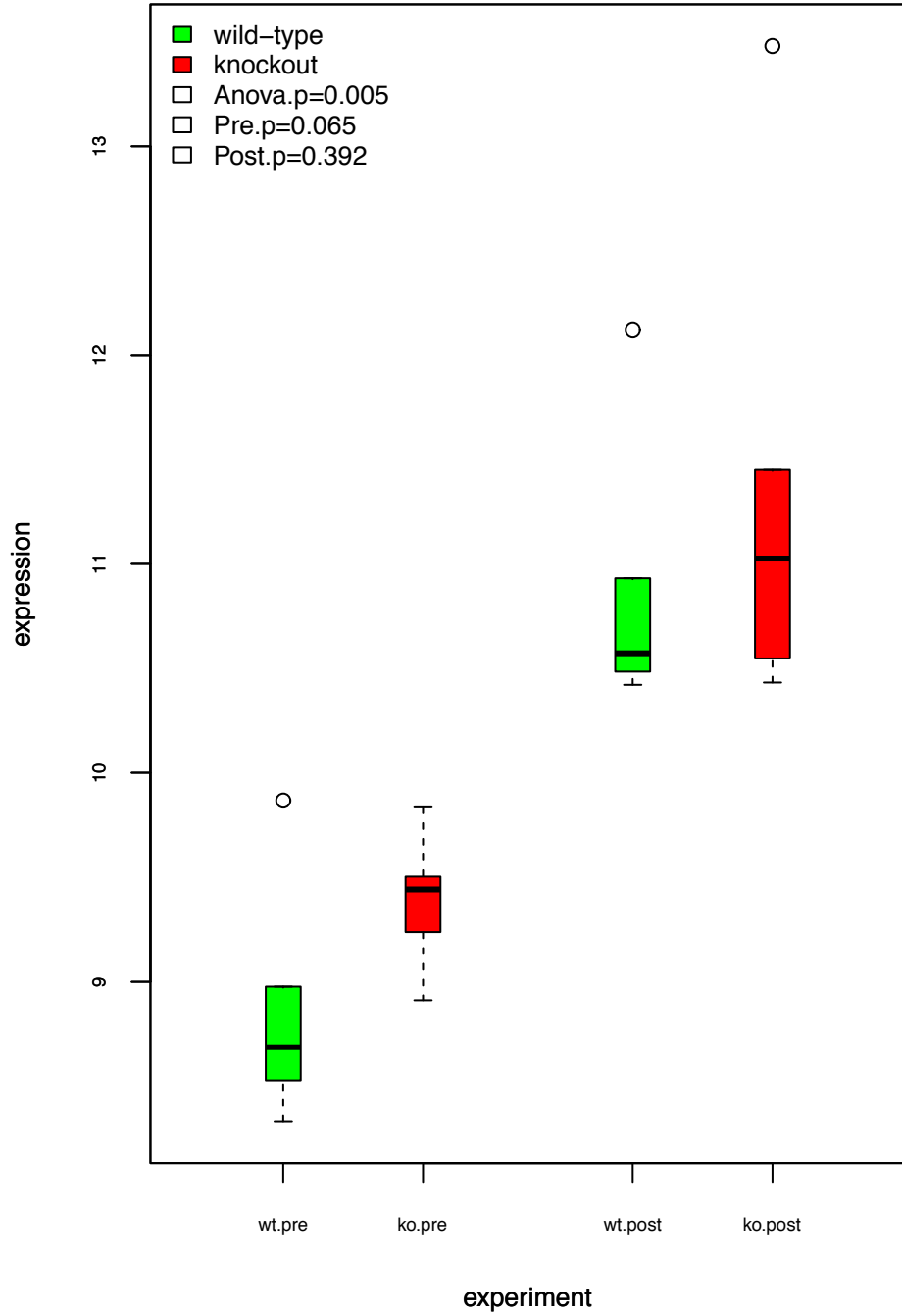
lfg2



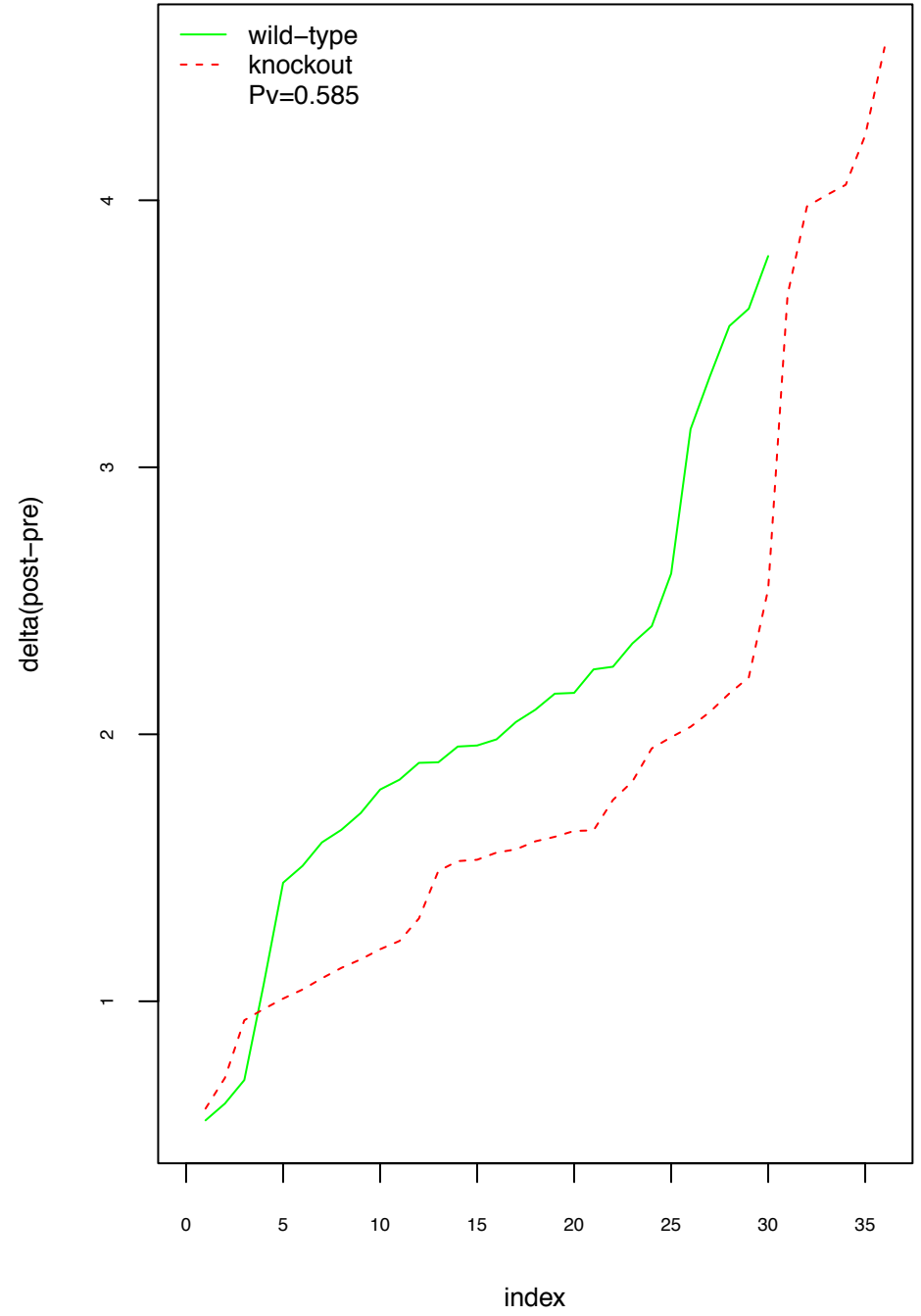
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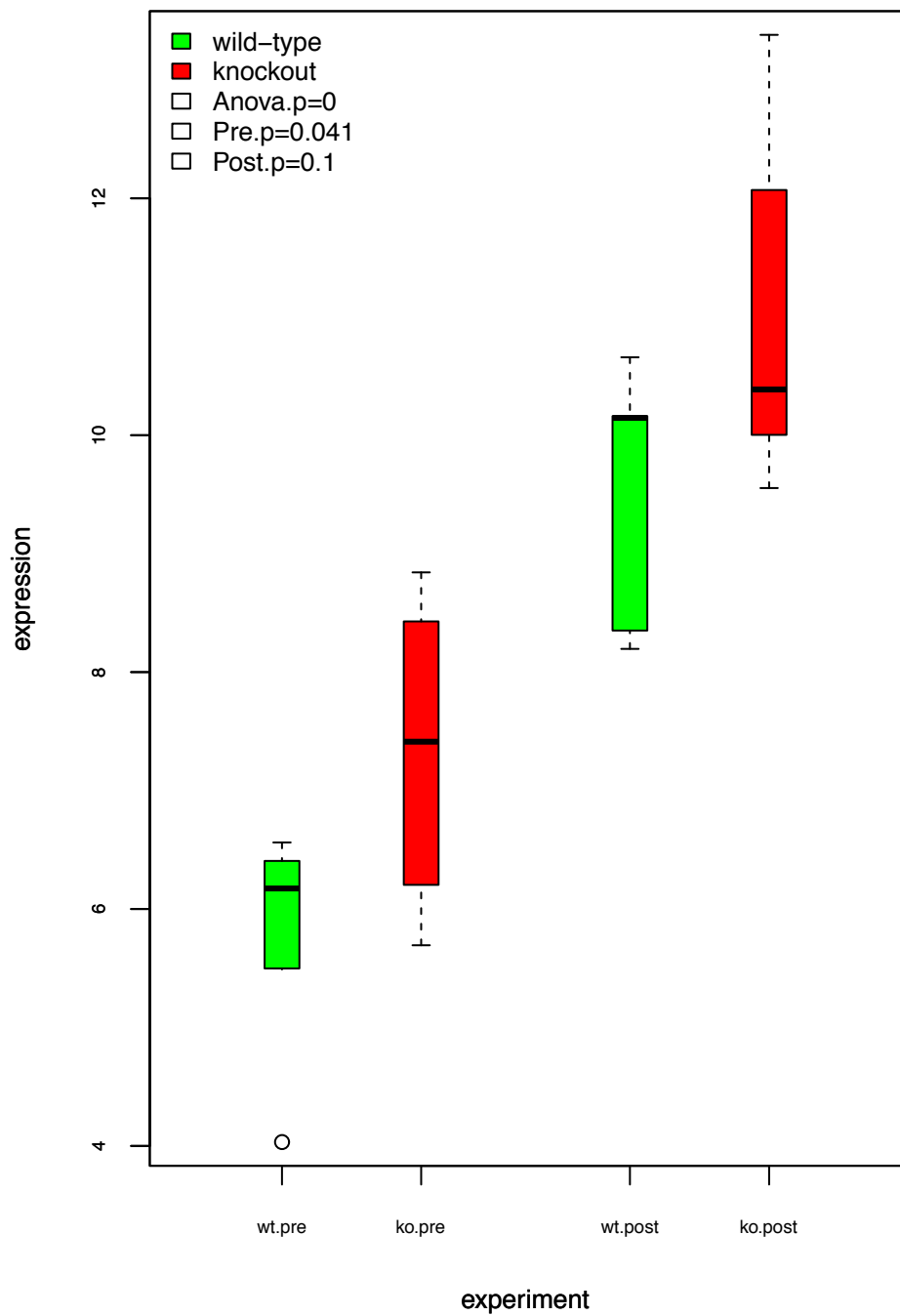
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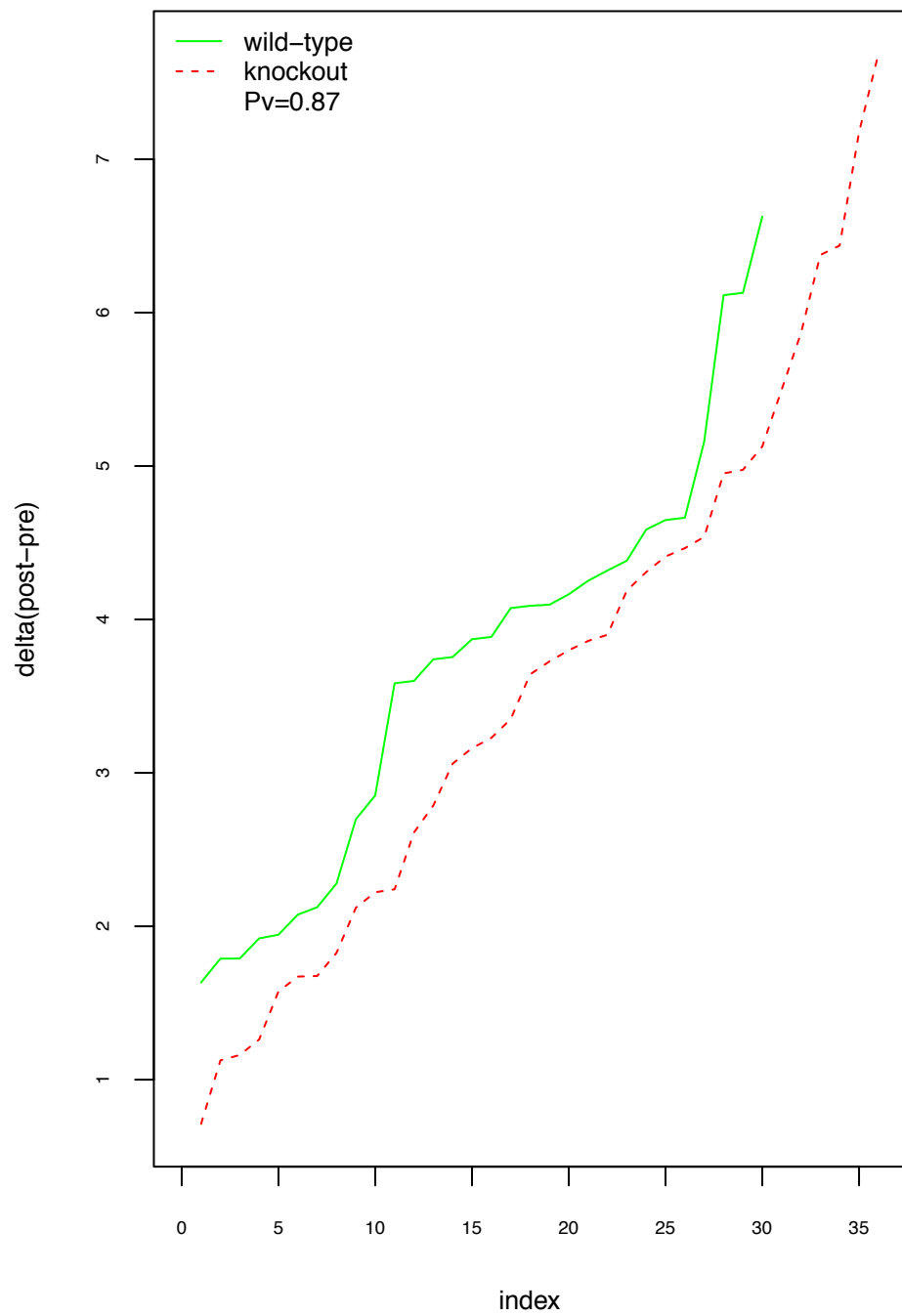
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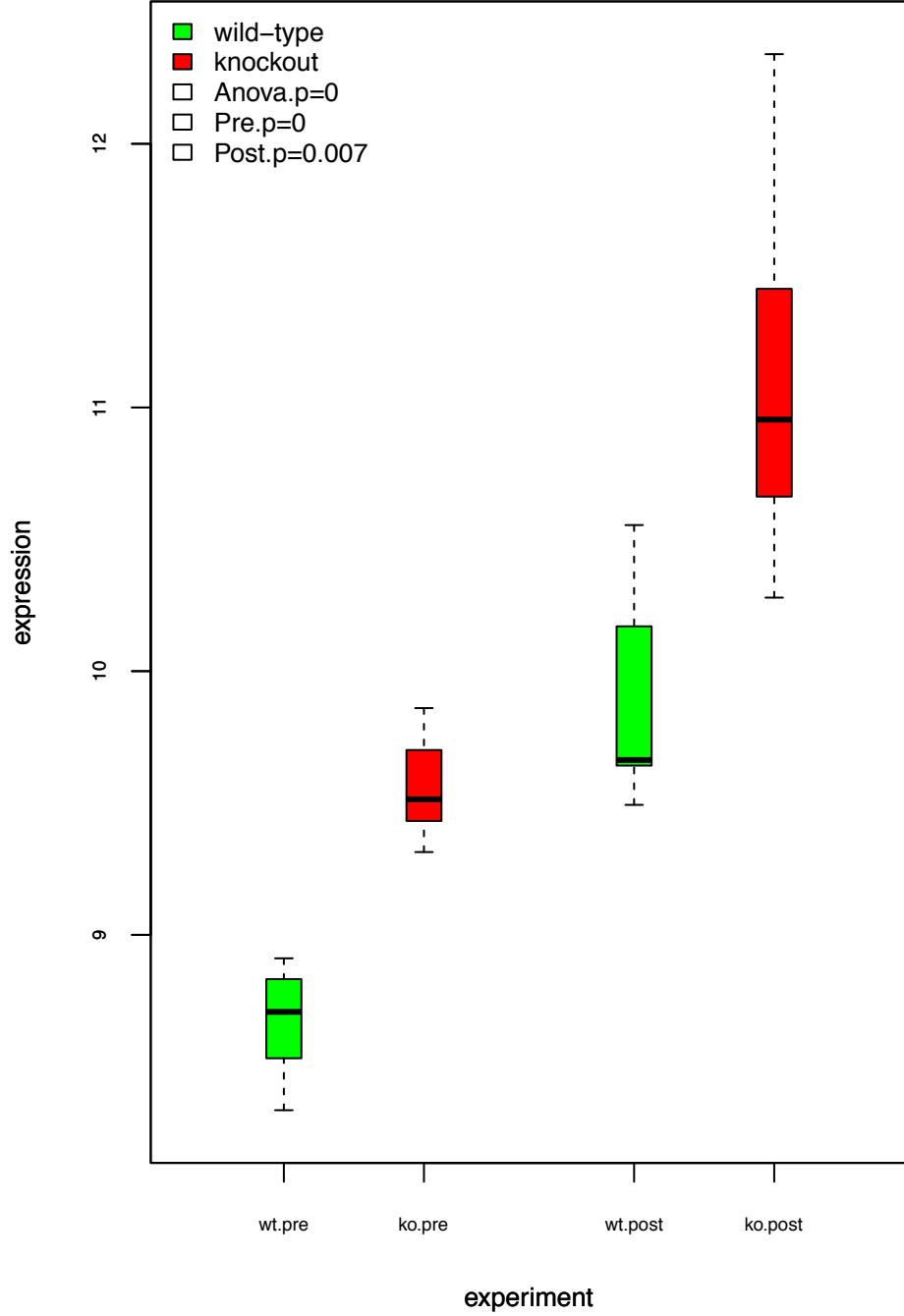
Jag2



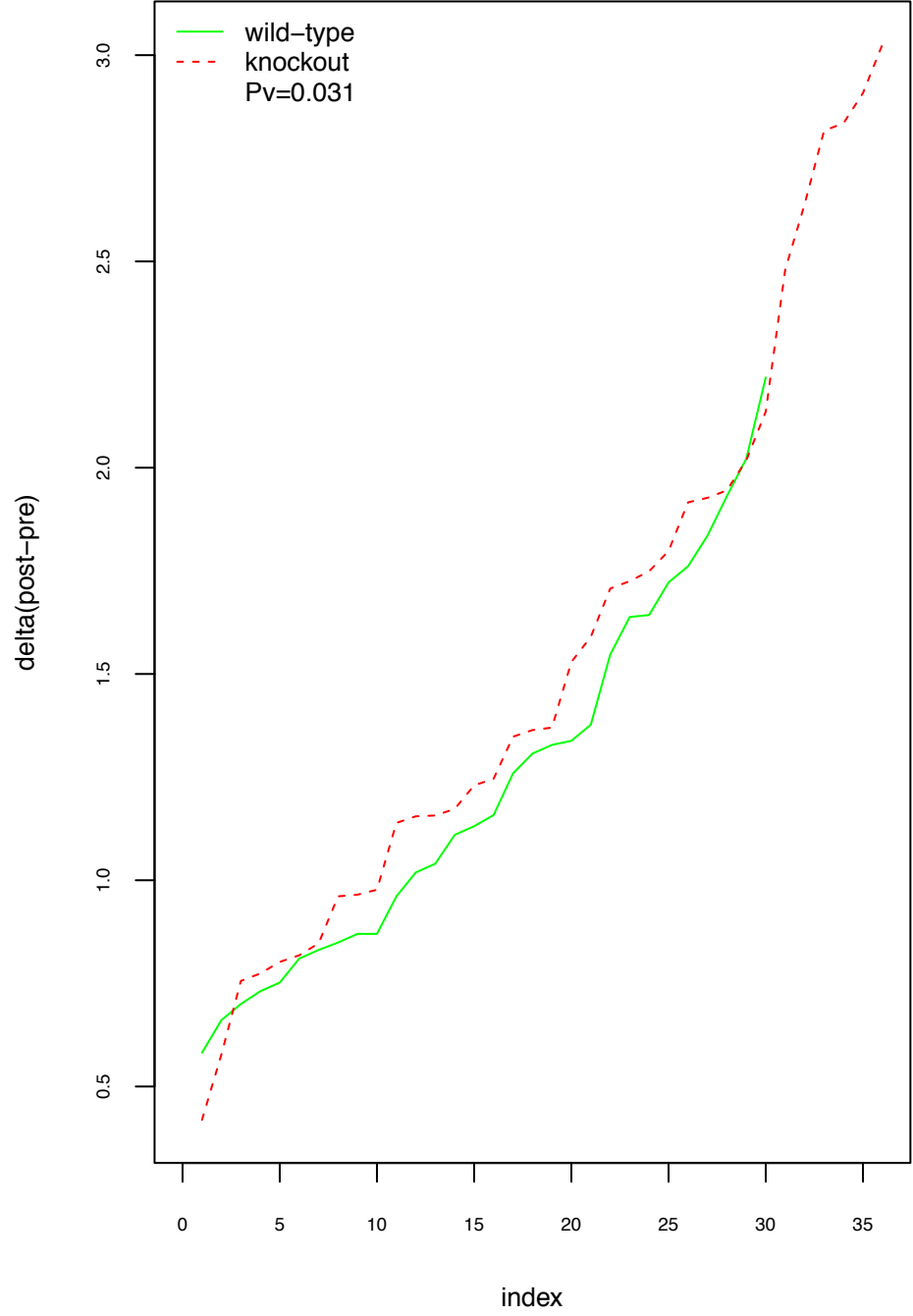
Jag2



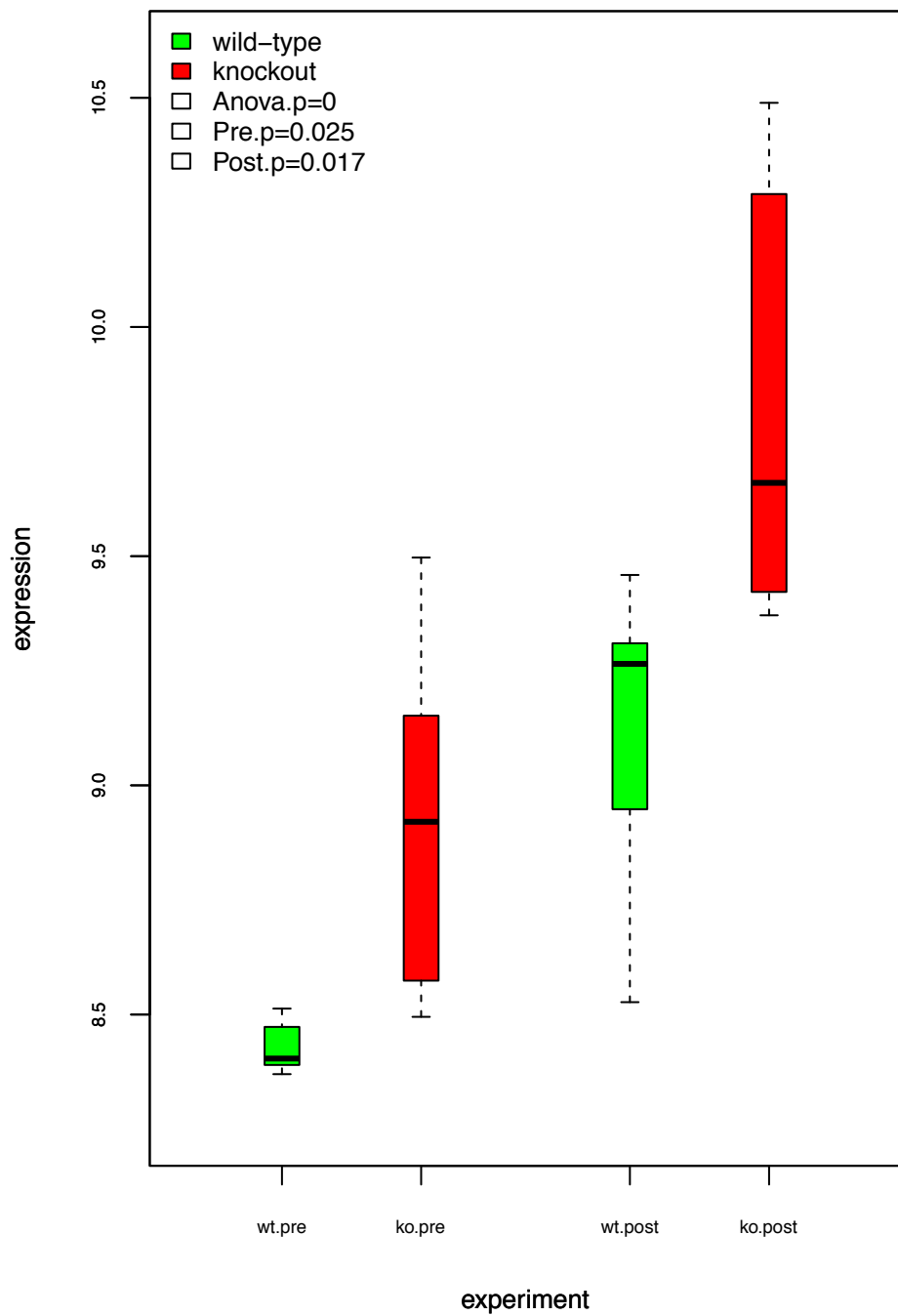
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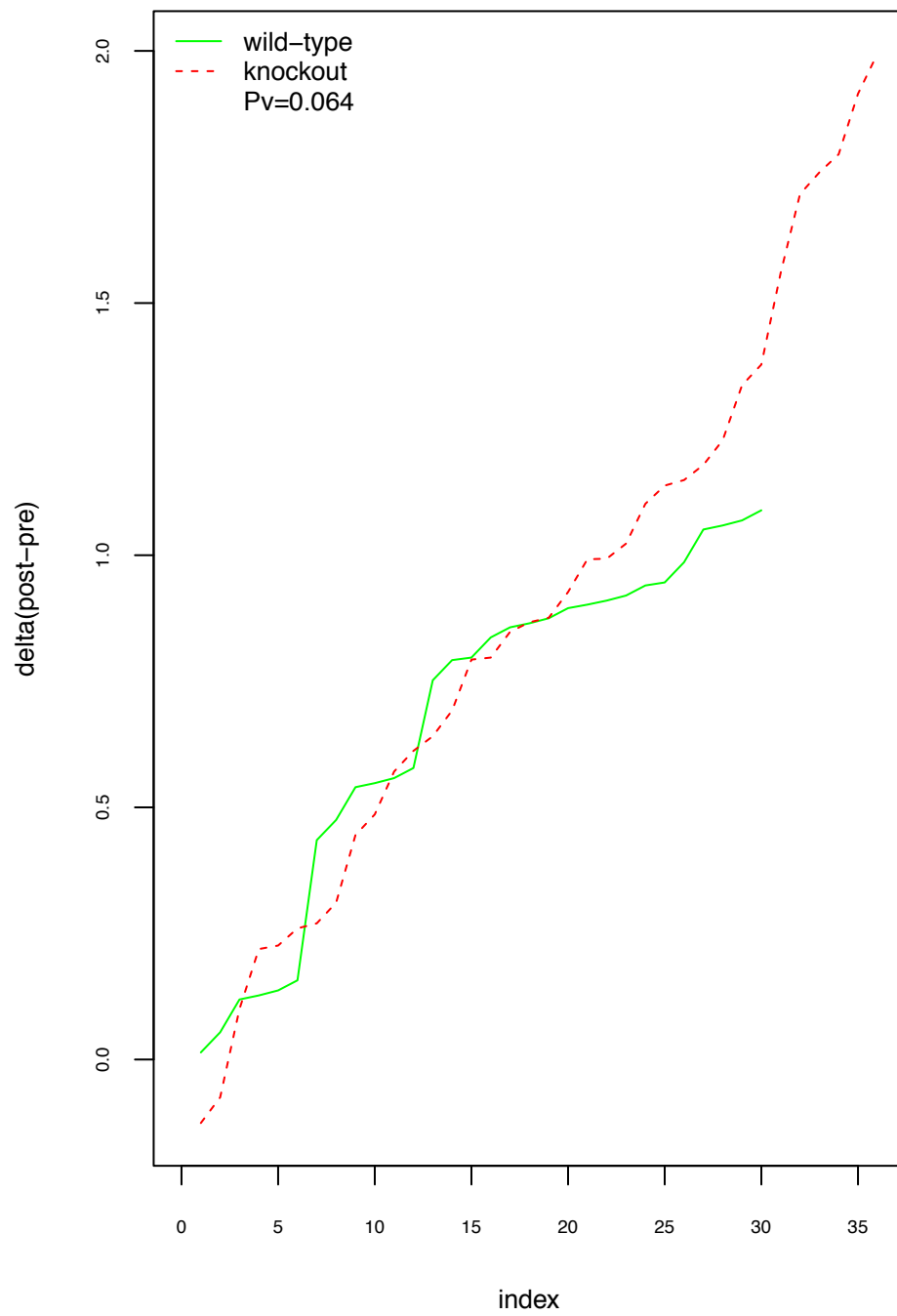
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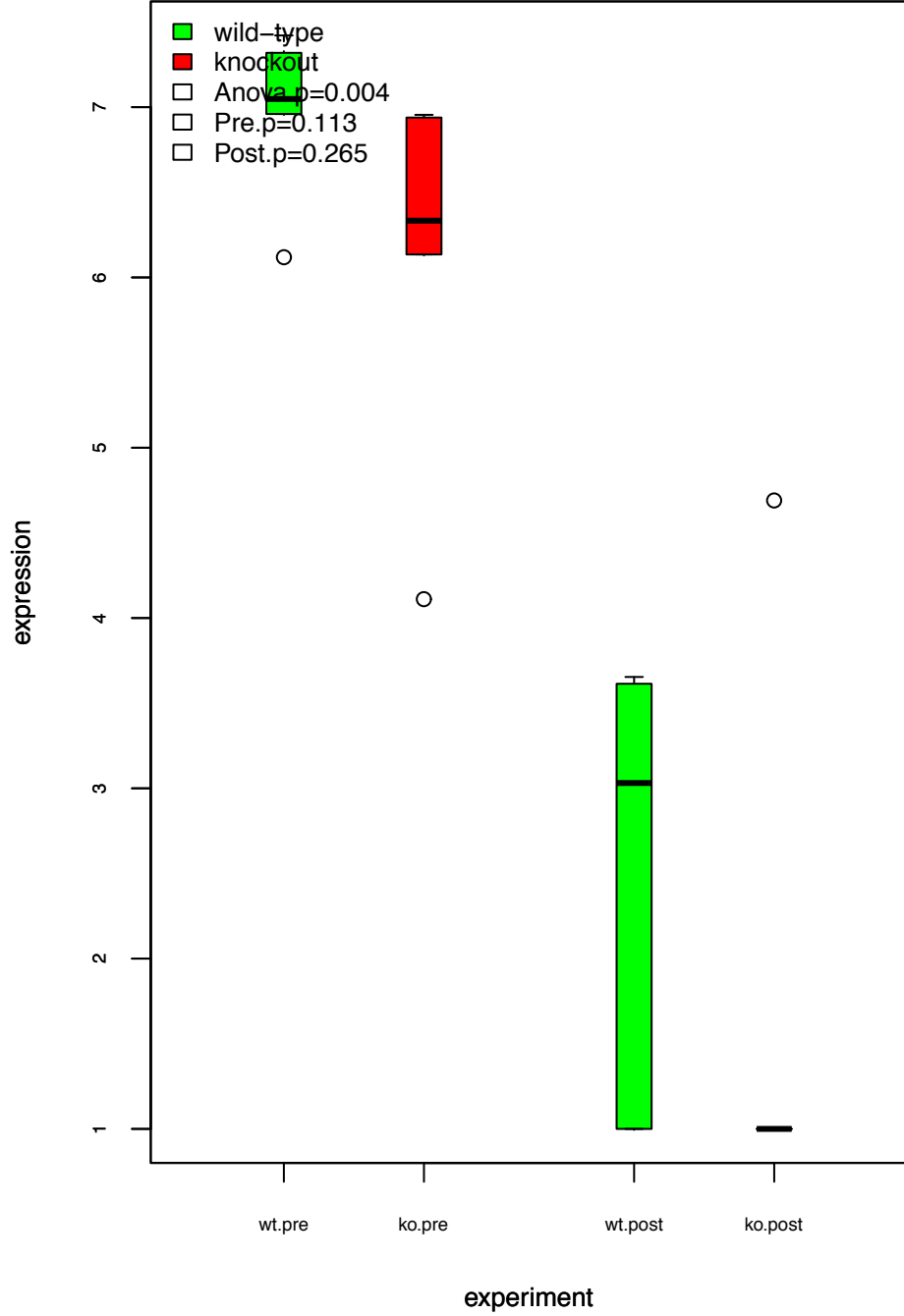
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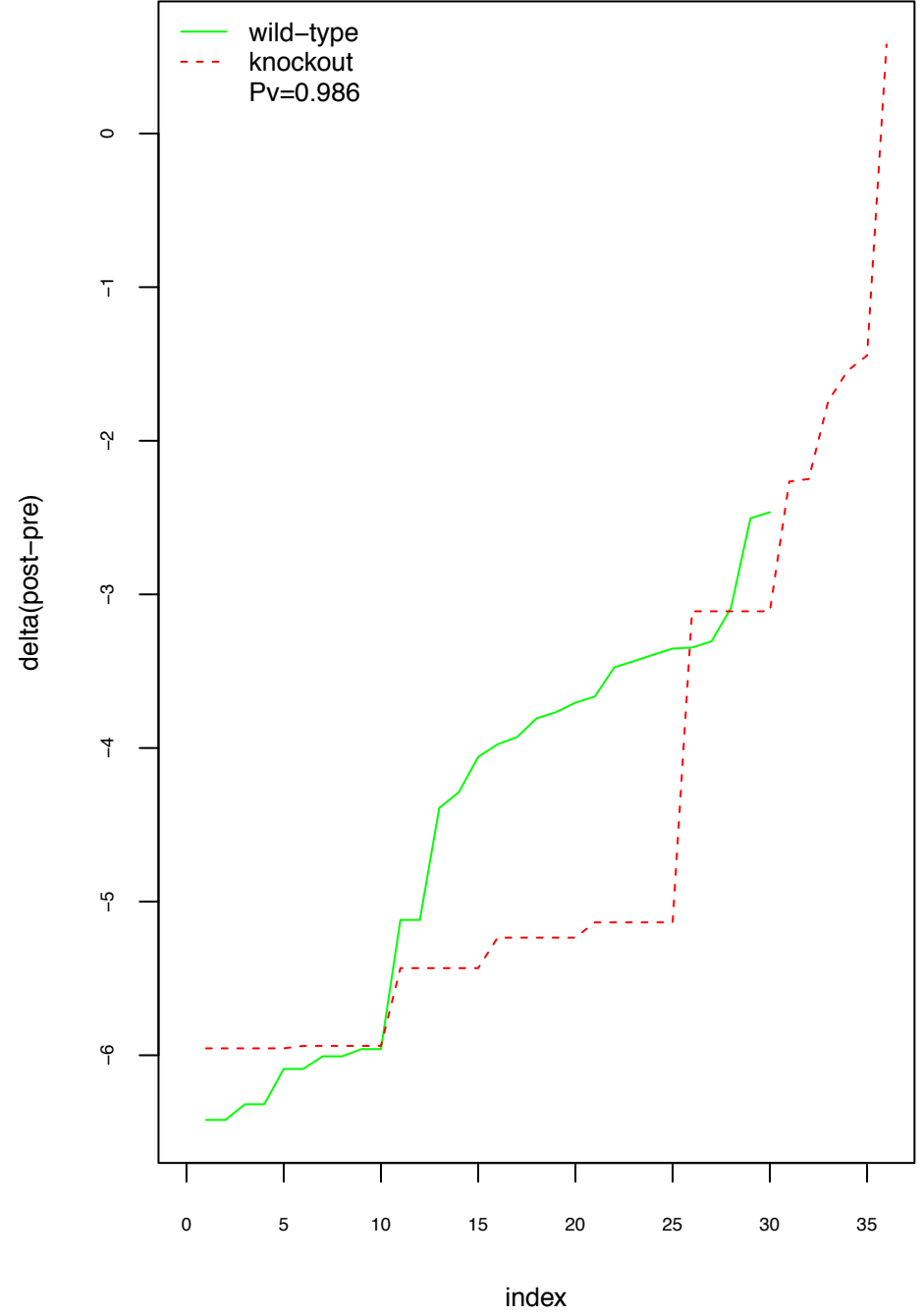
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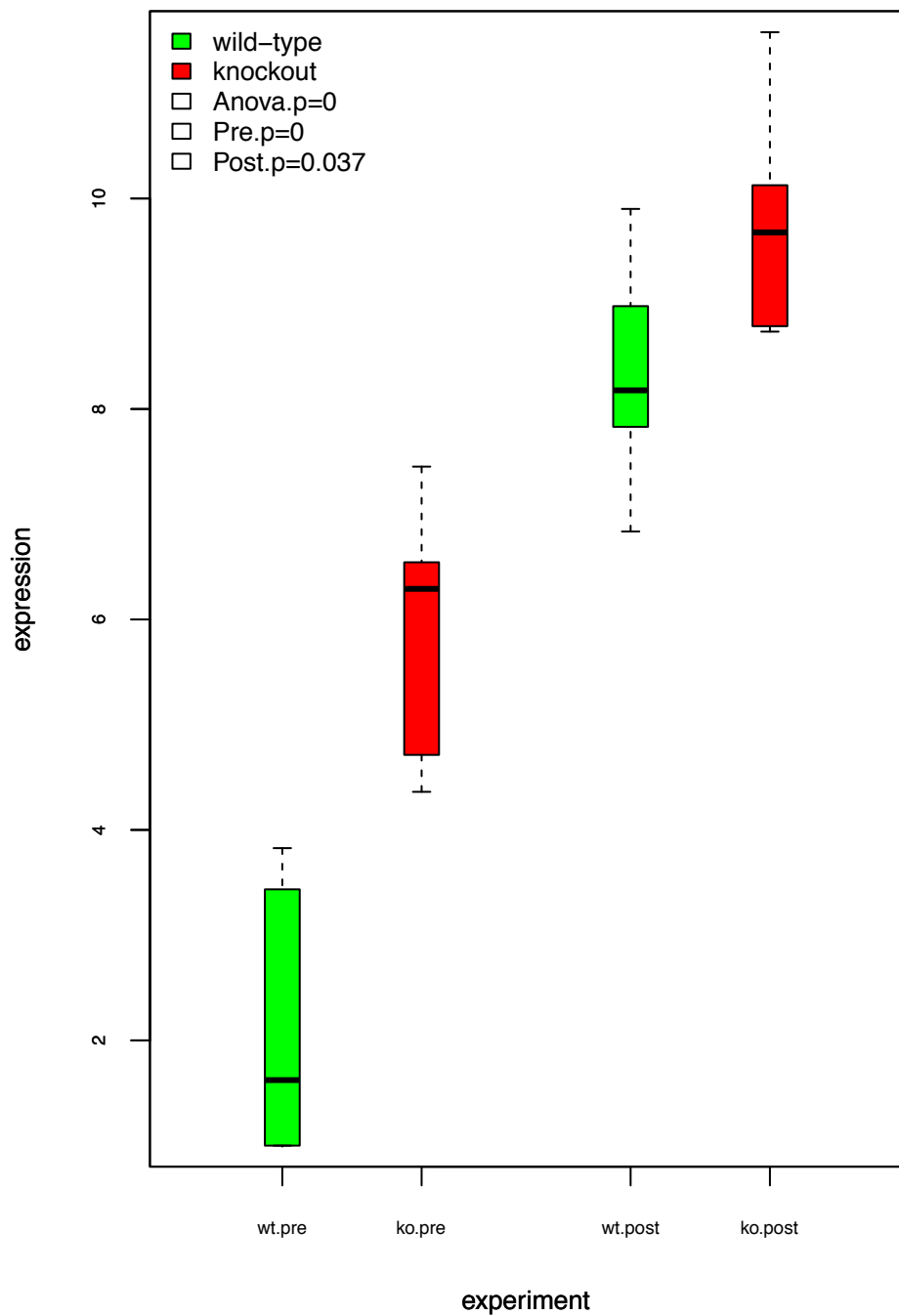
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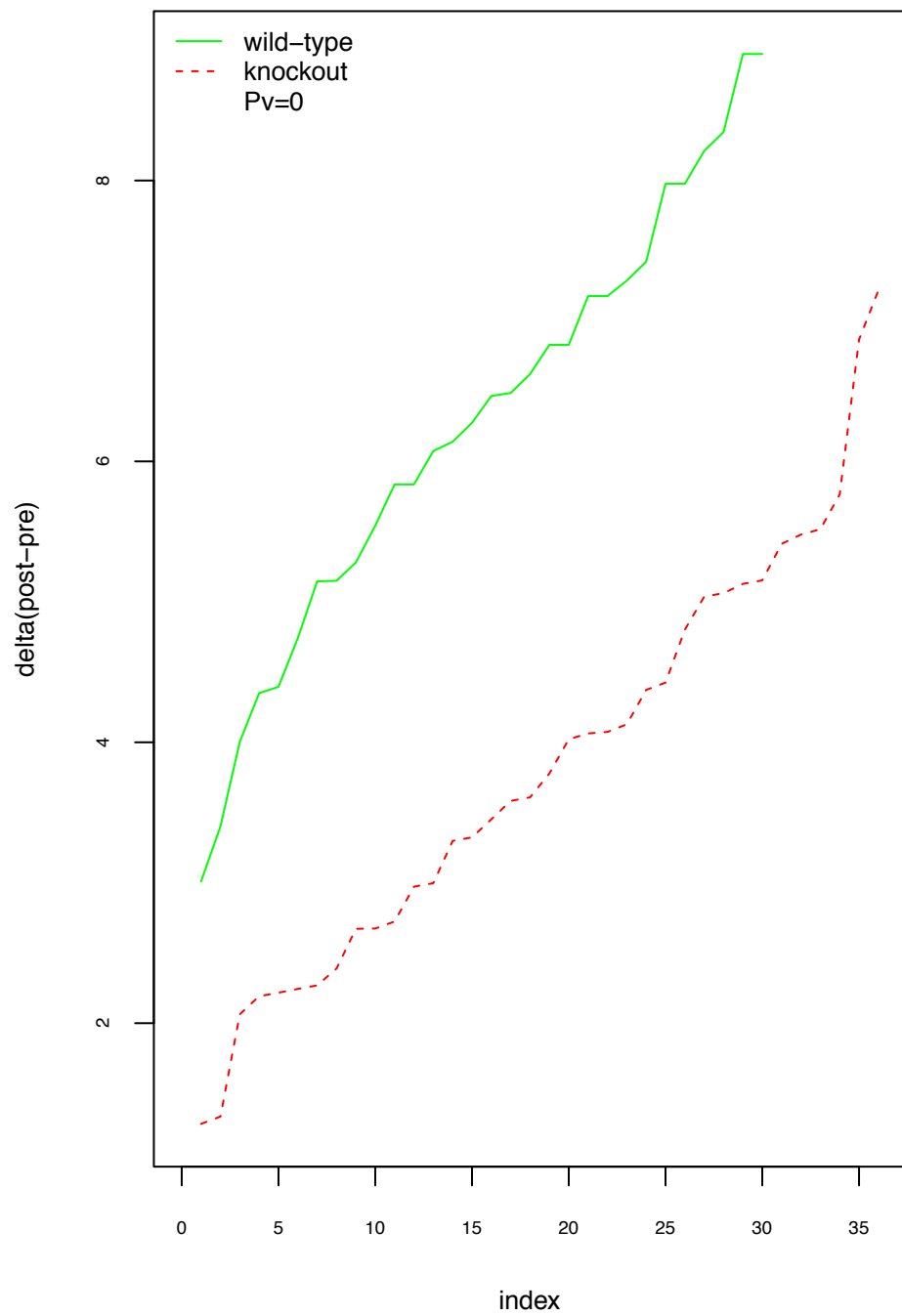
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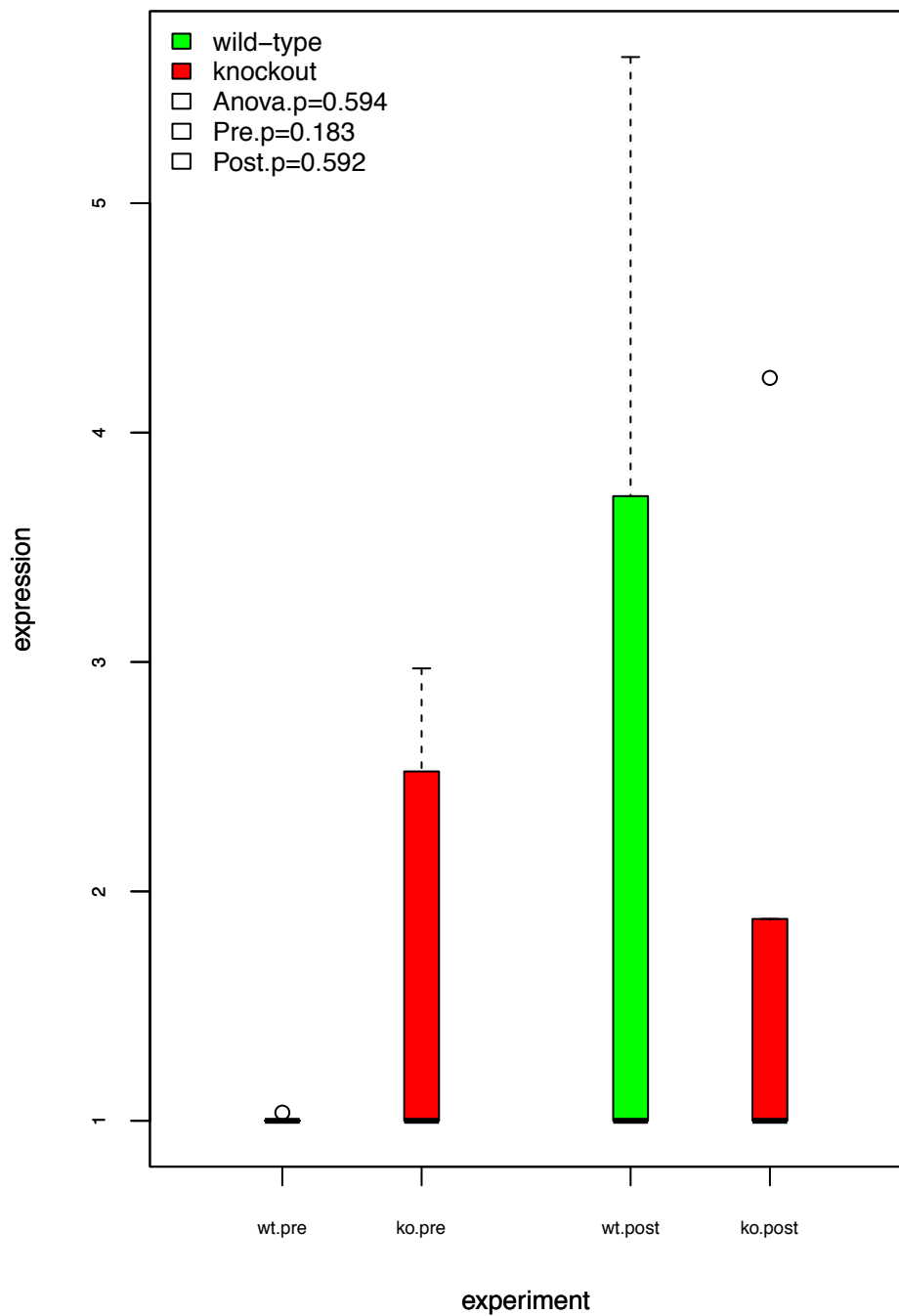
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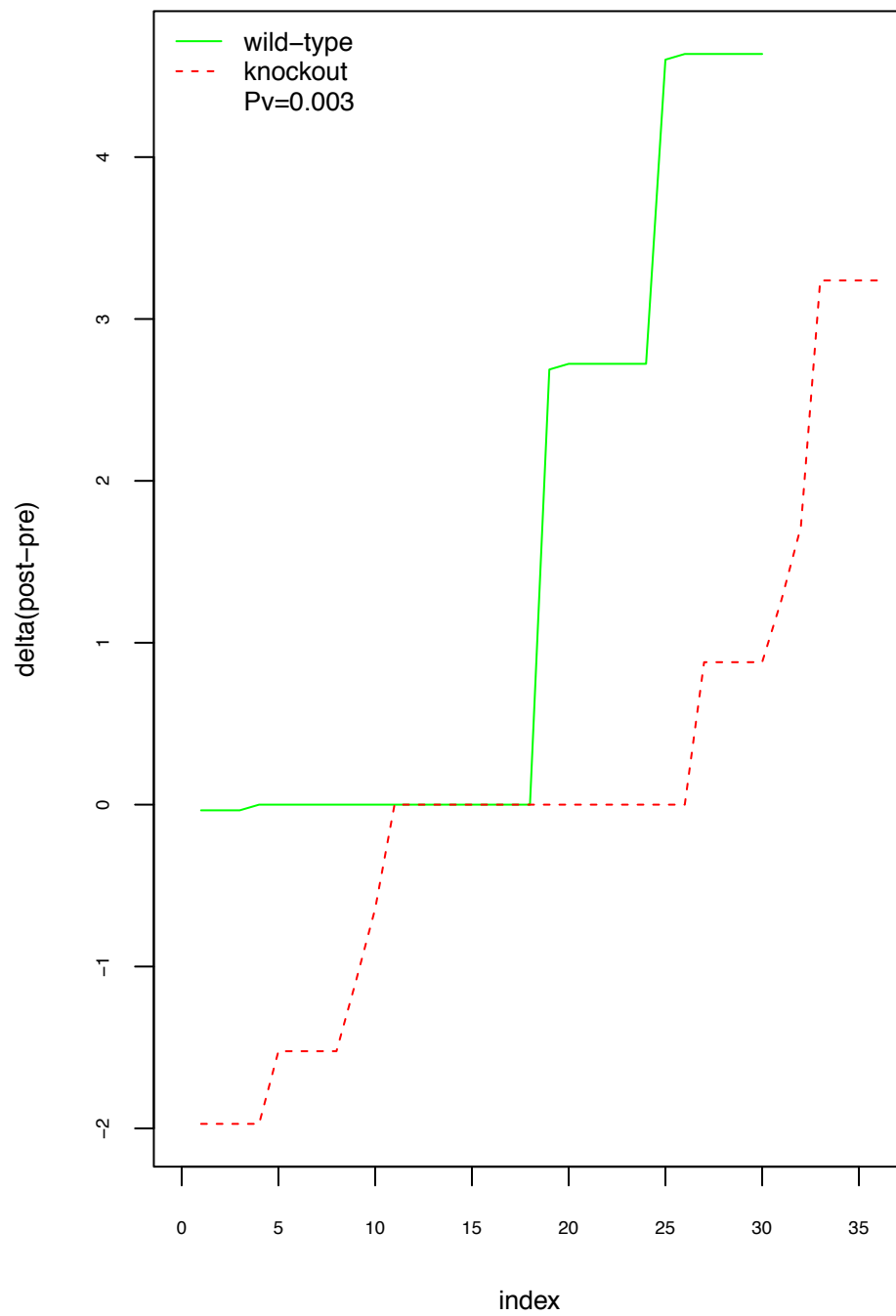
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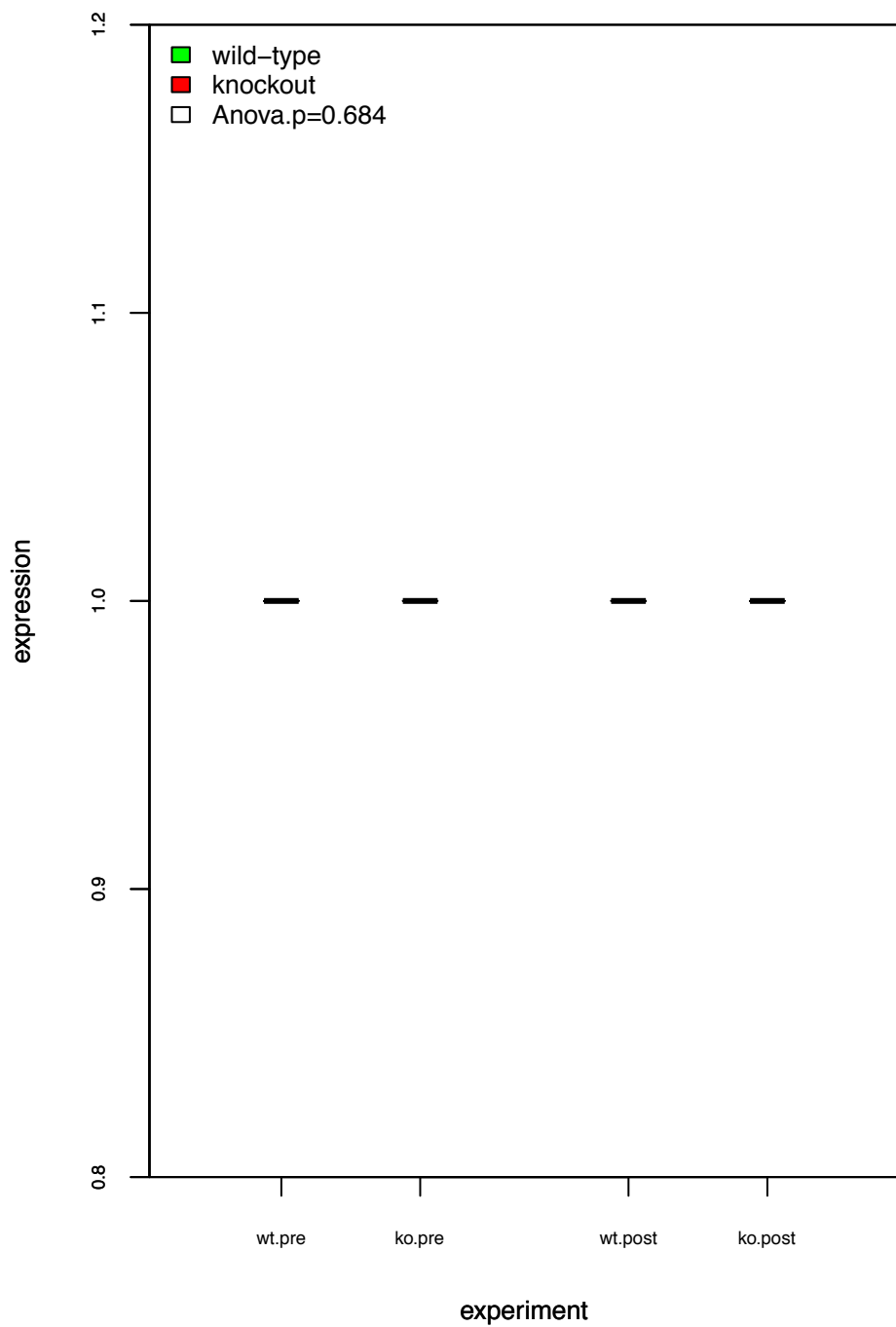
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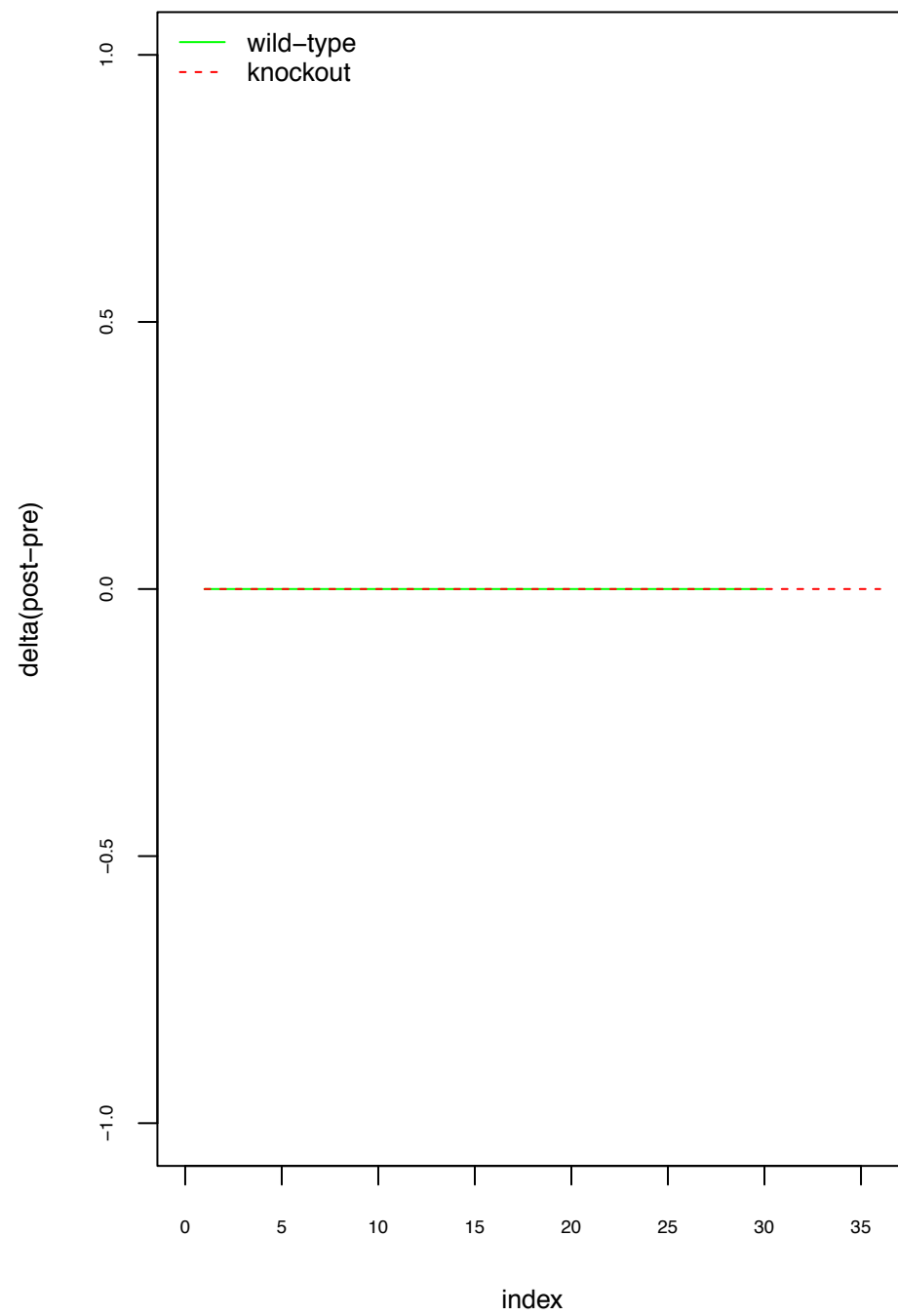
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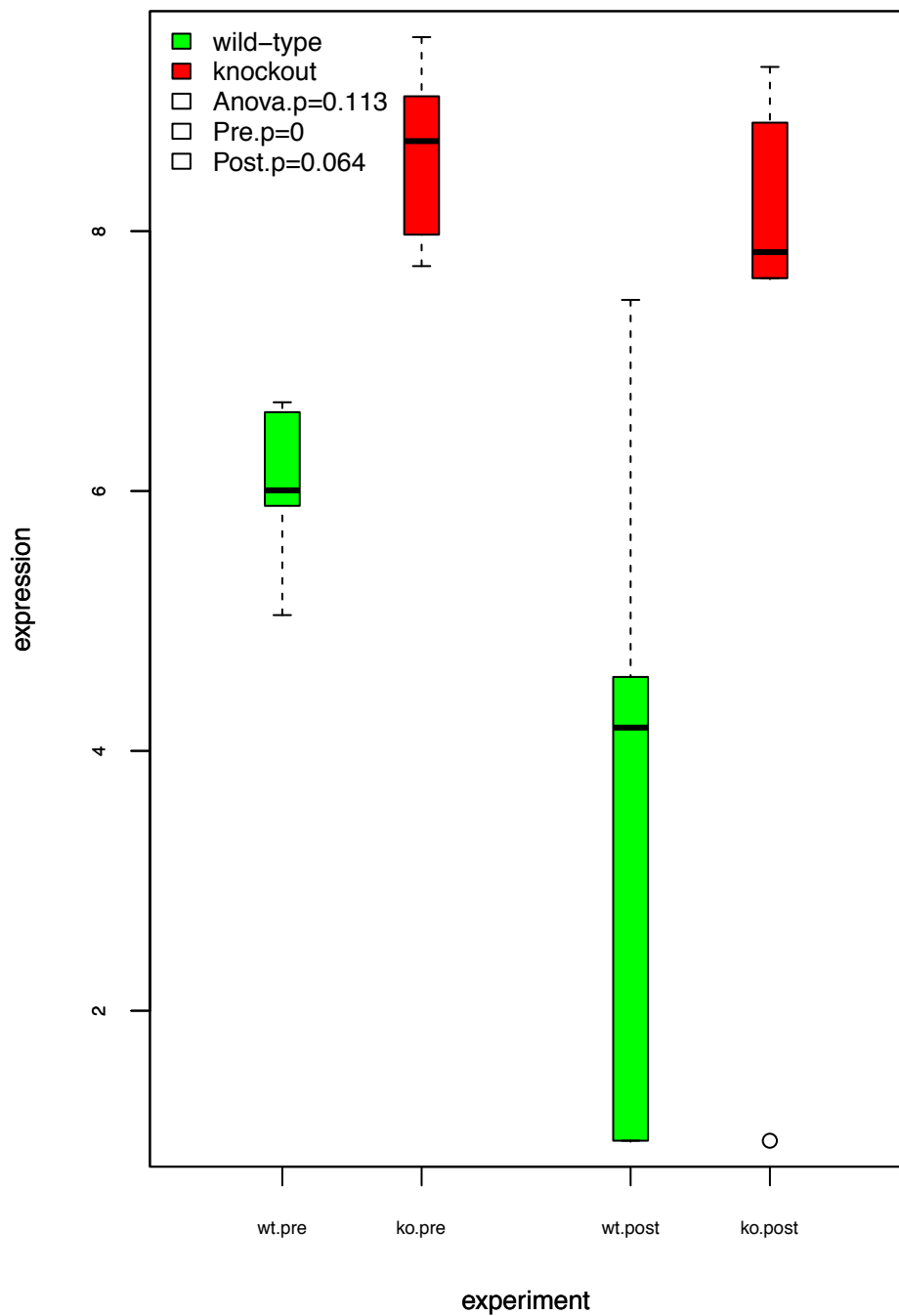
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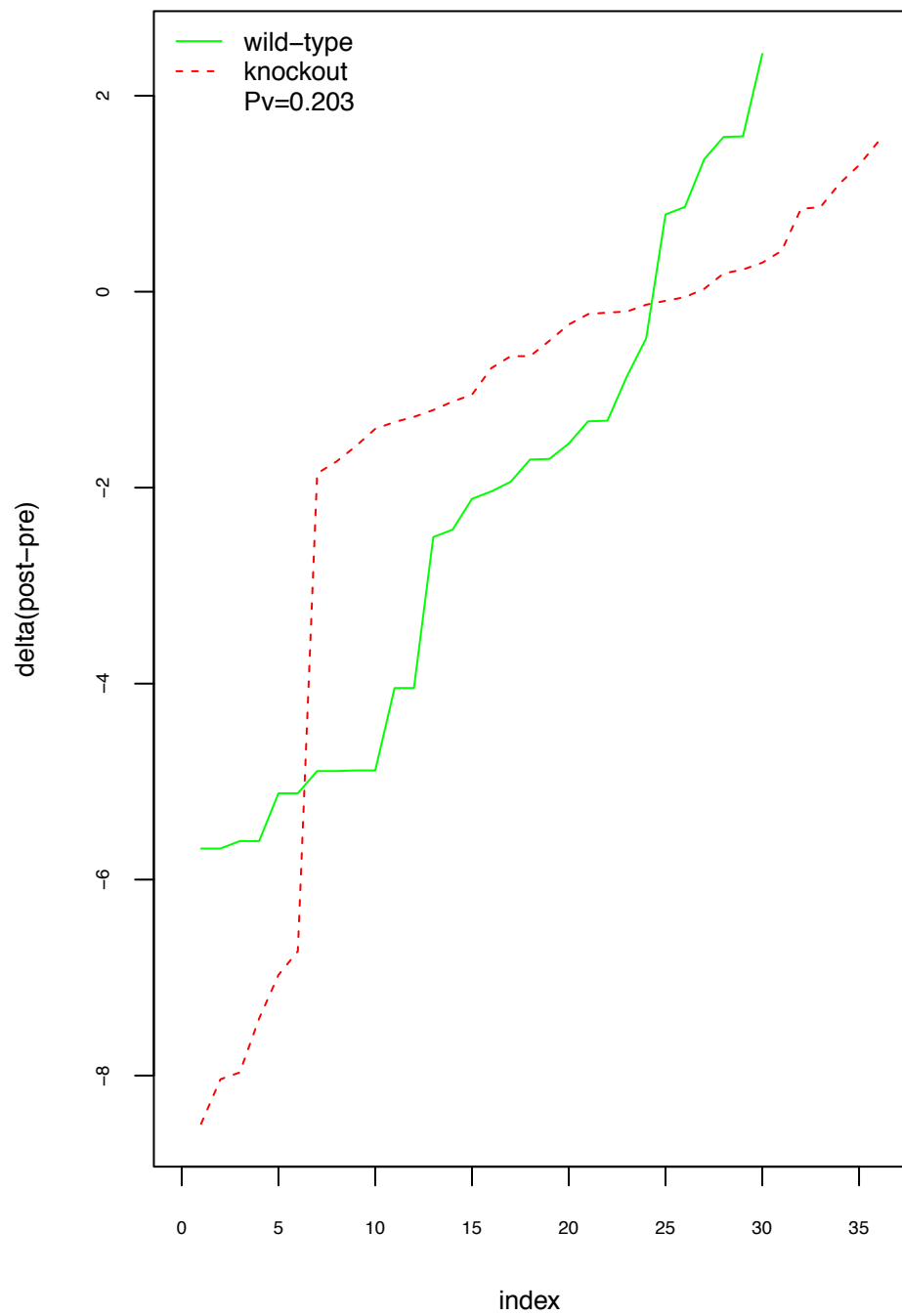
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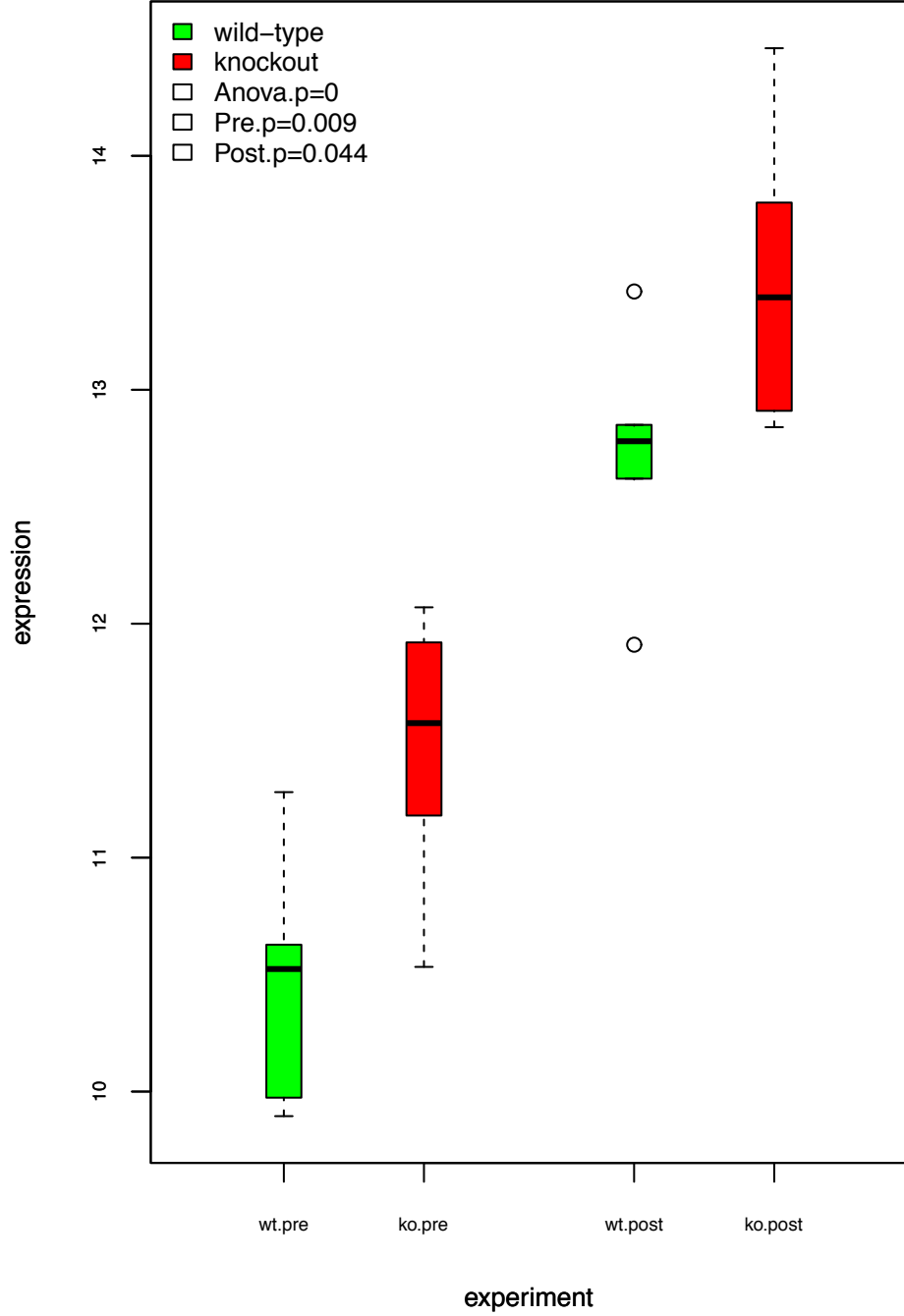
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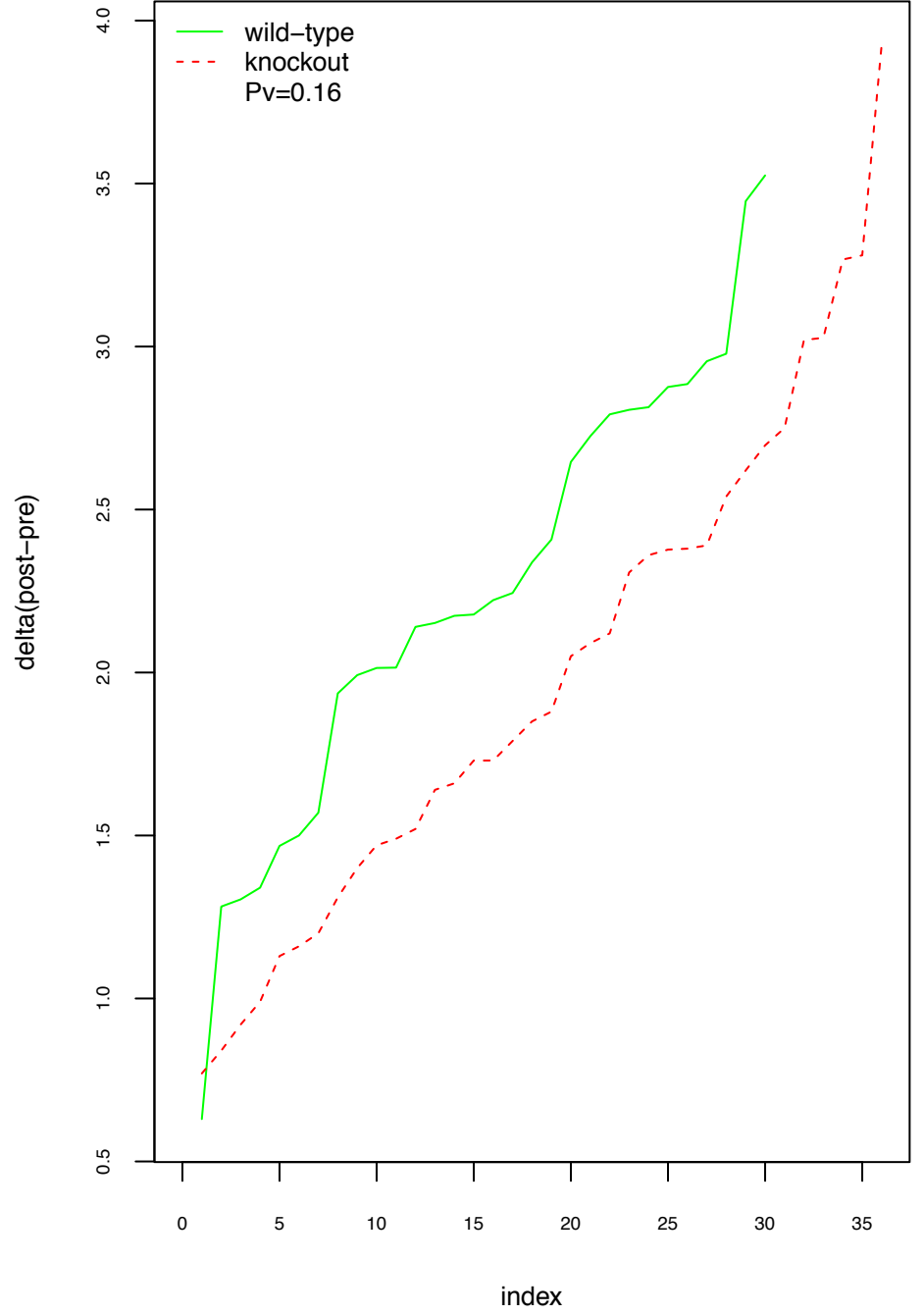
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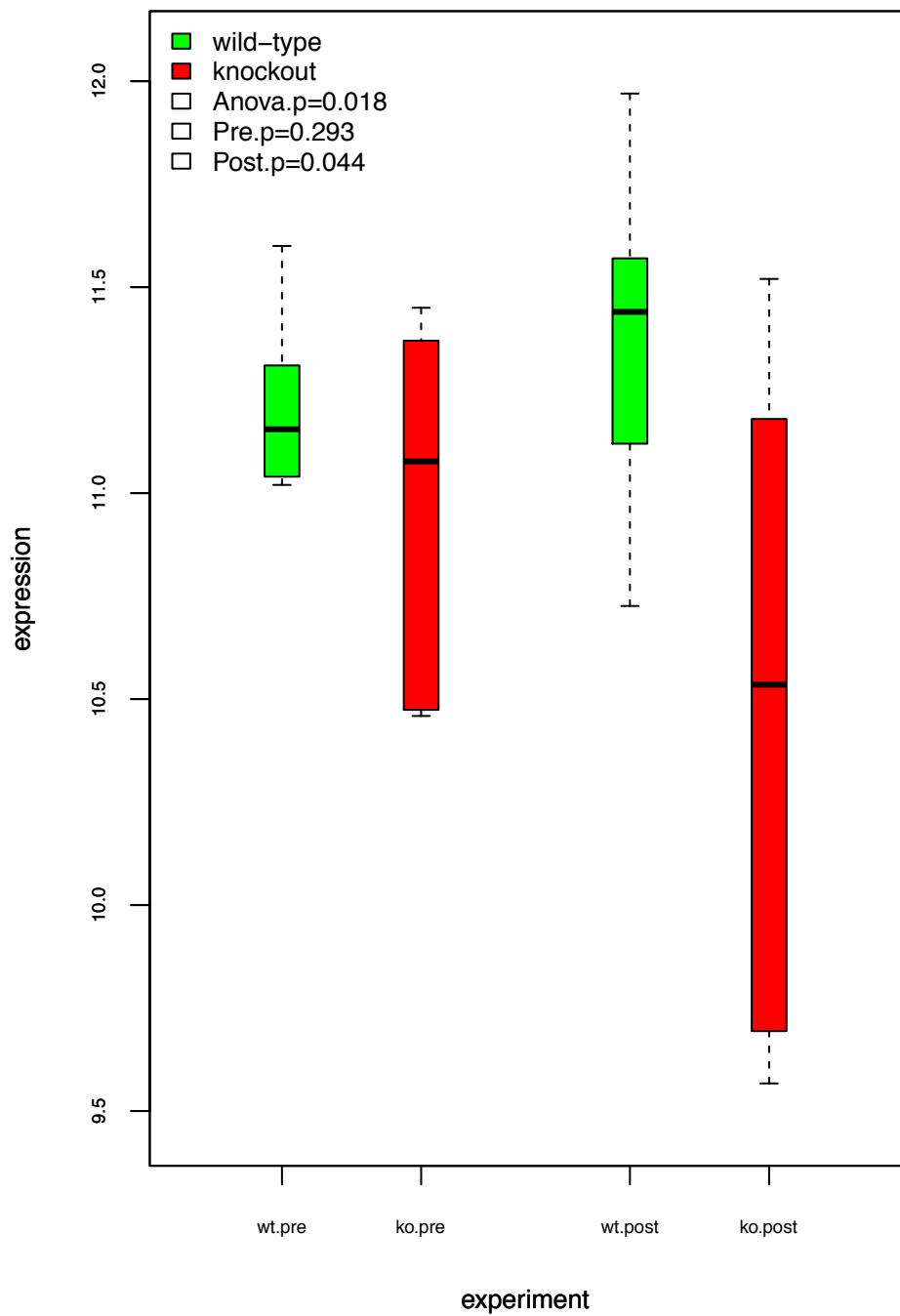
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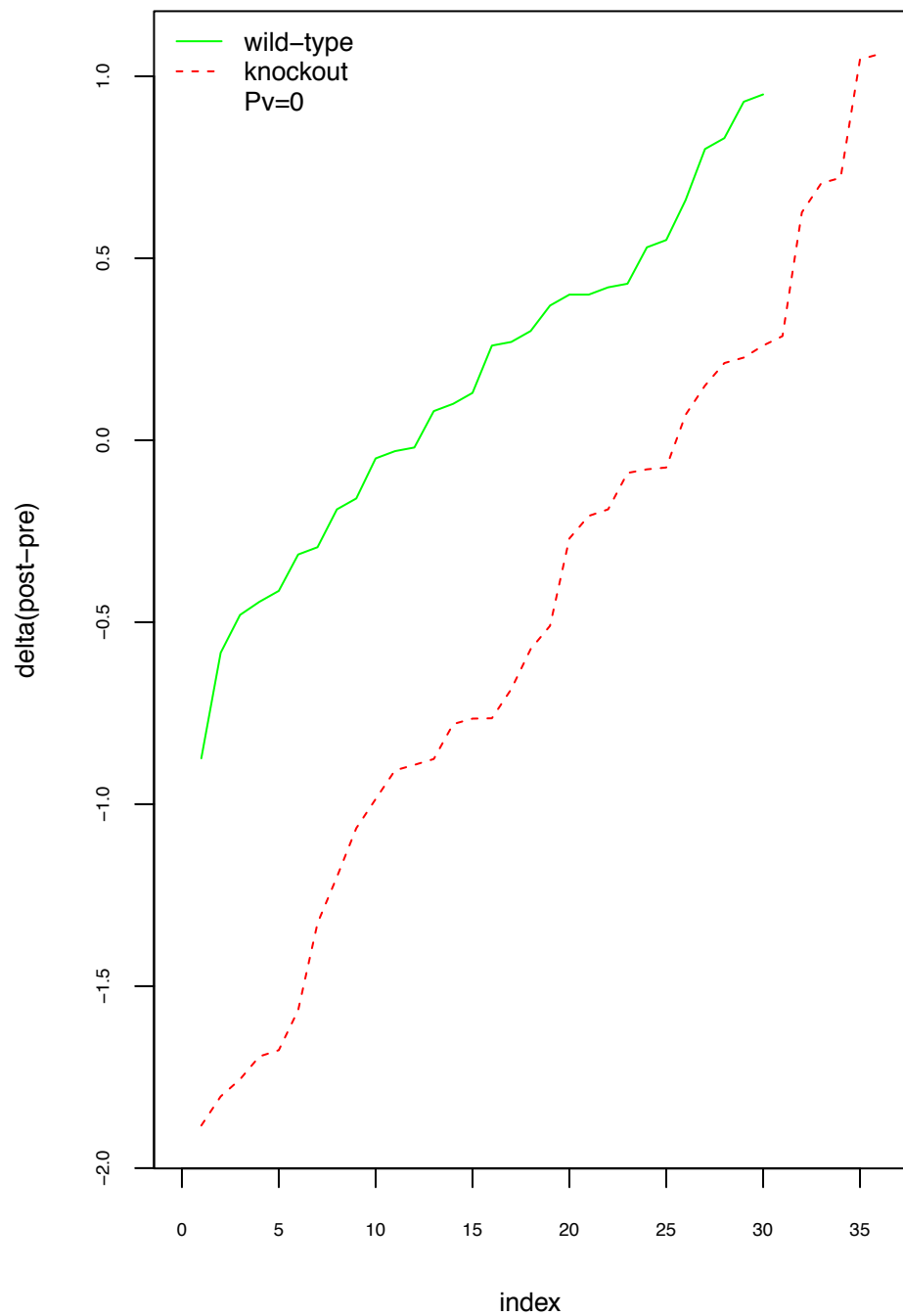
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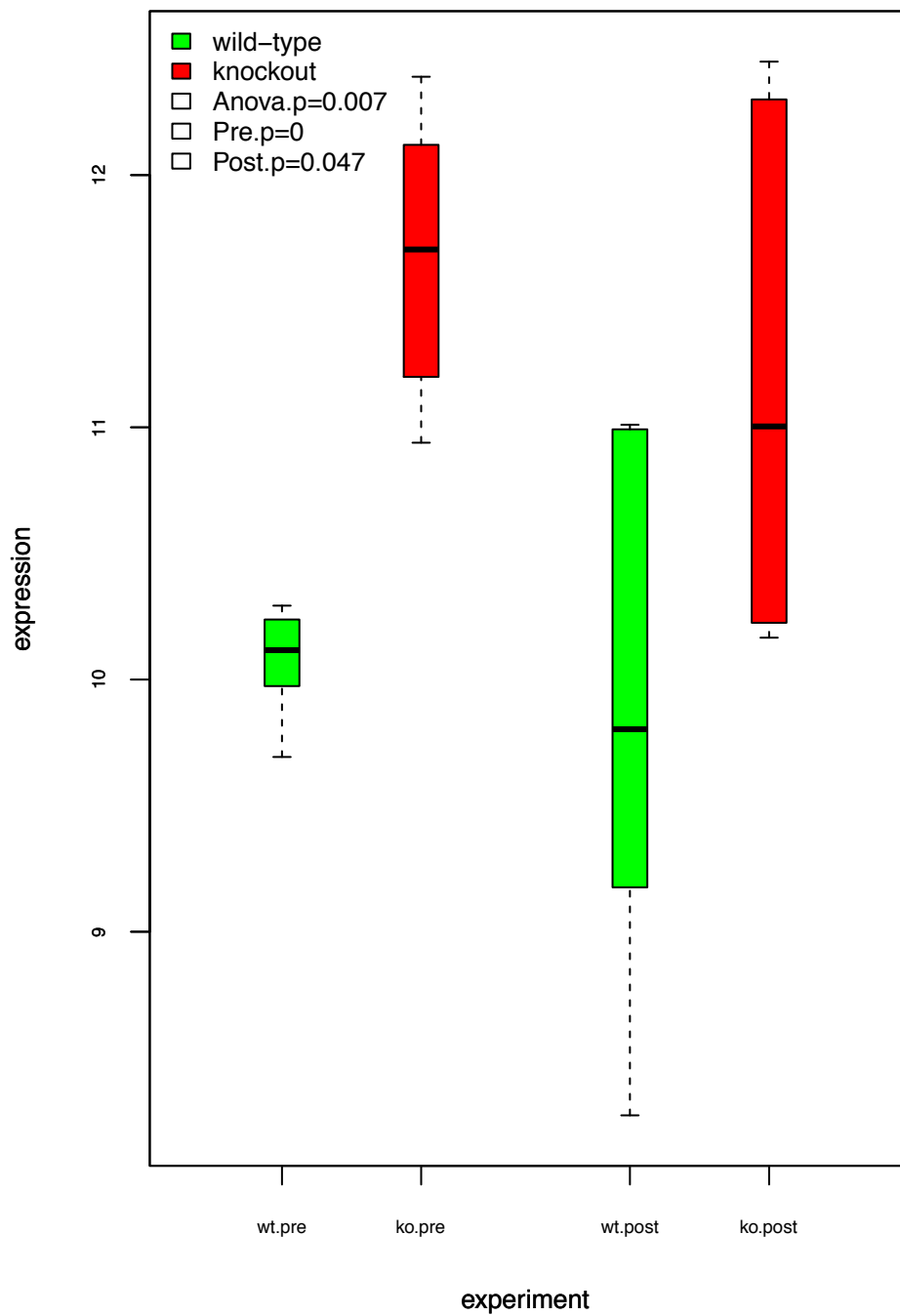
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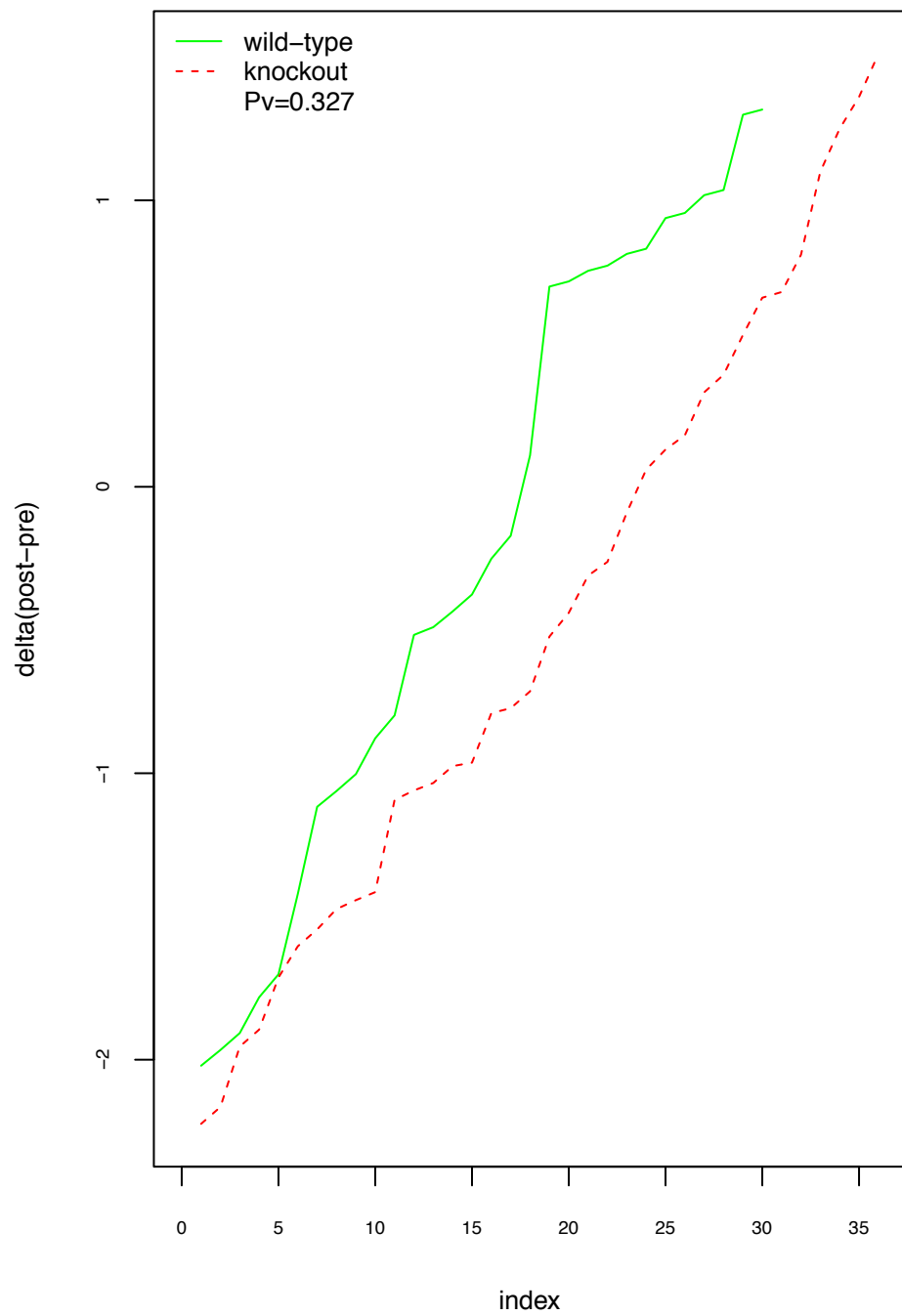
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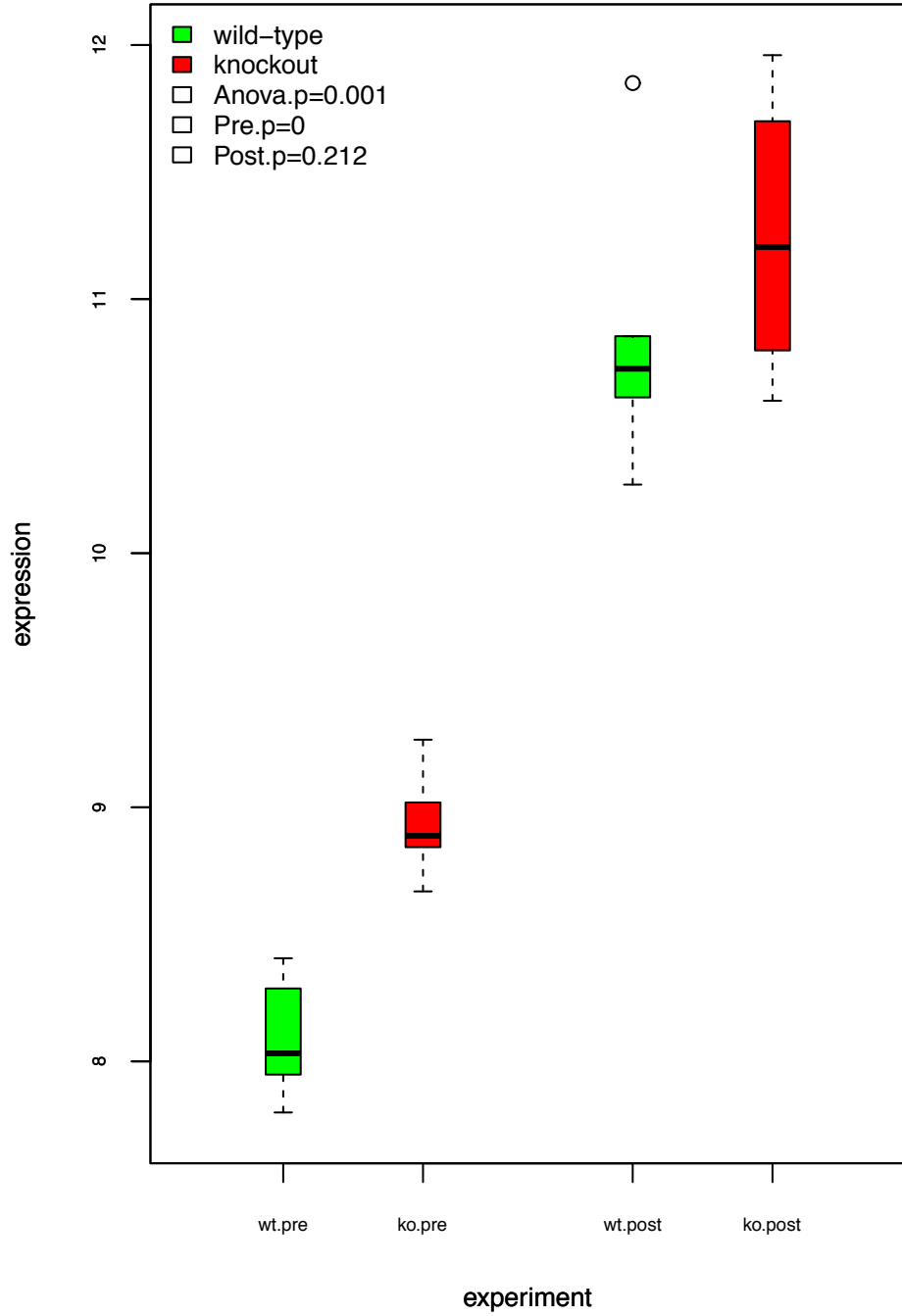
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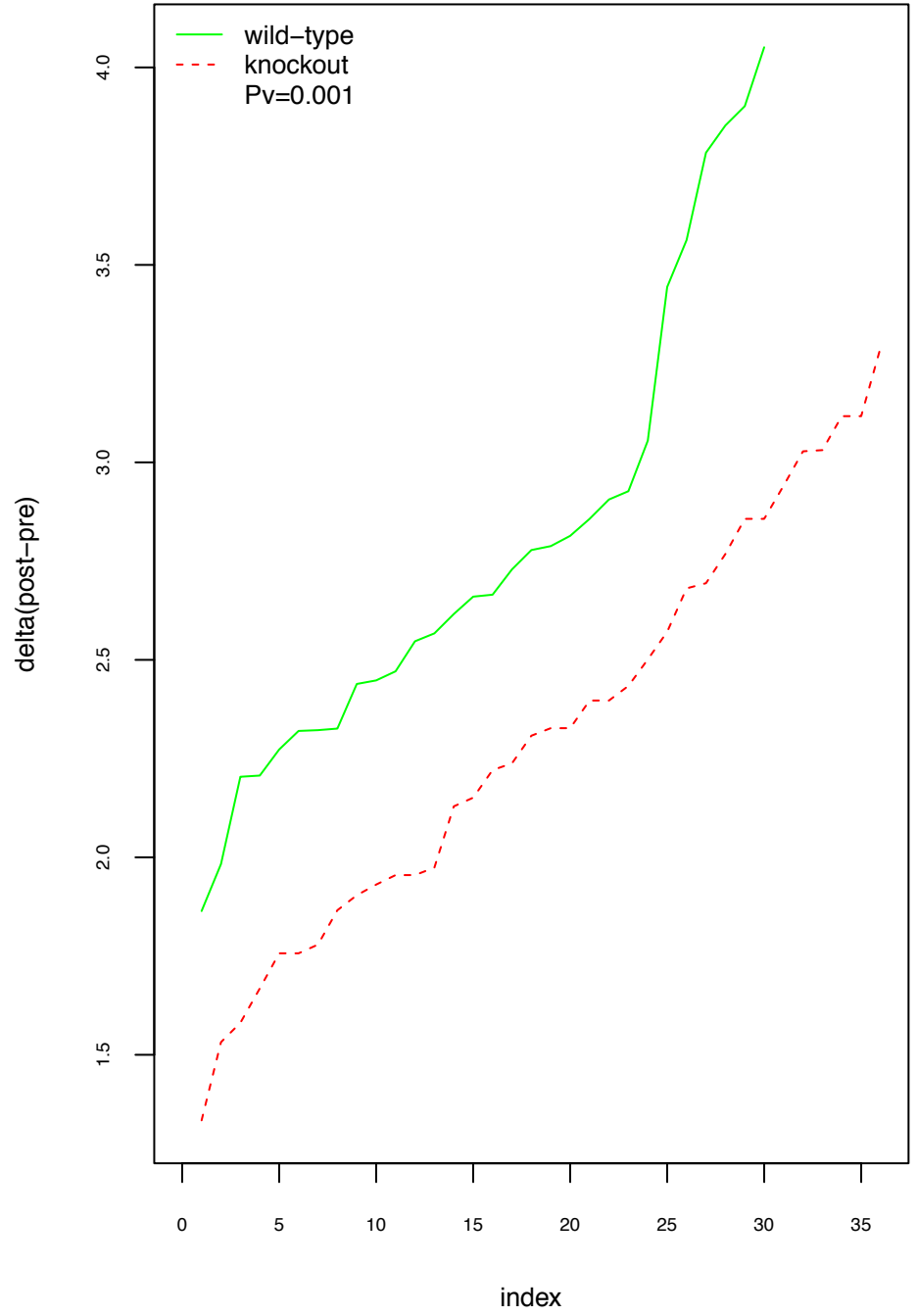
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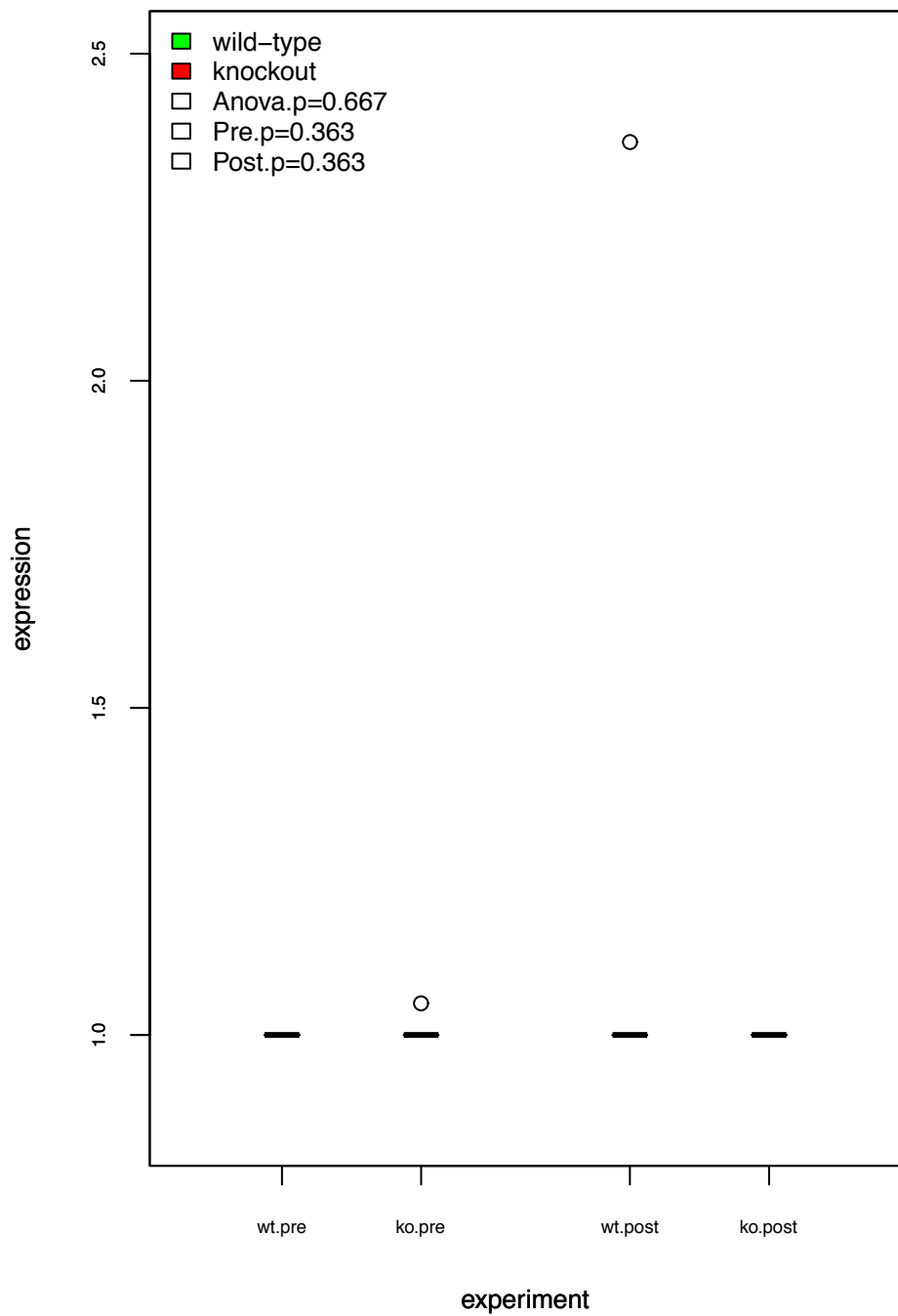
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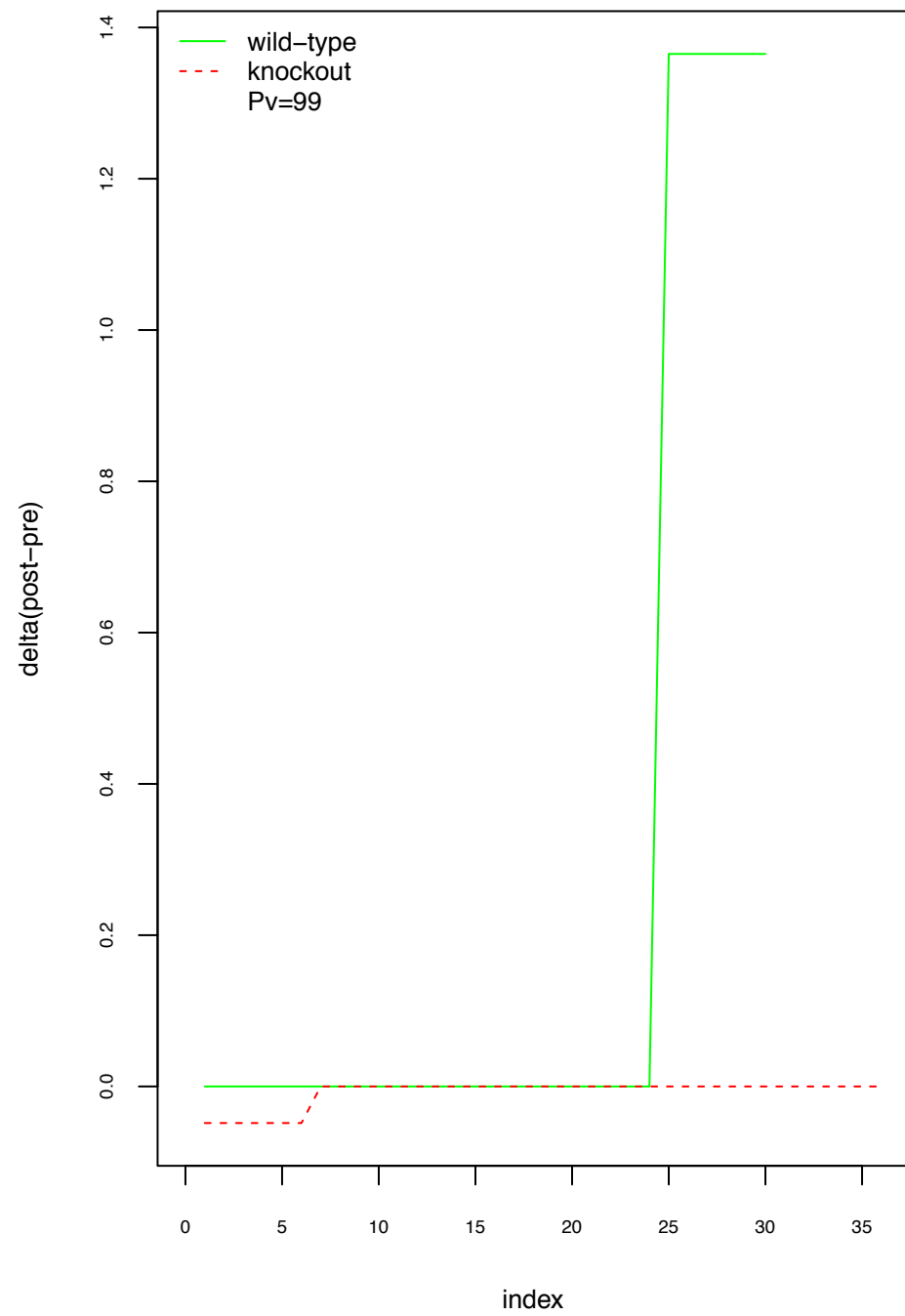
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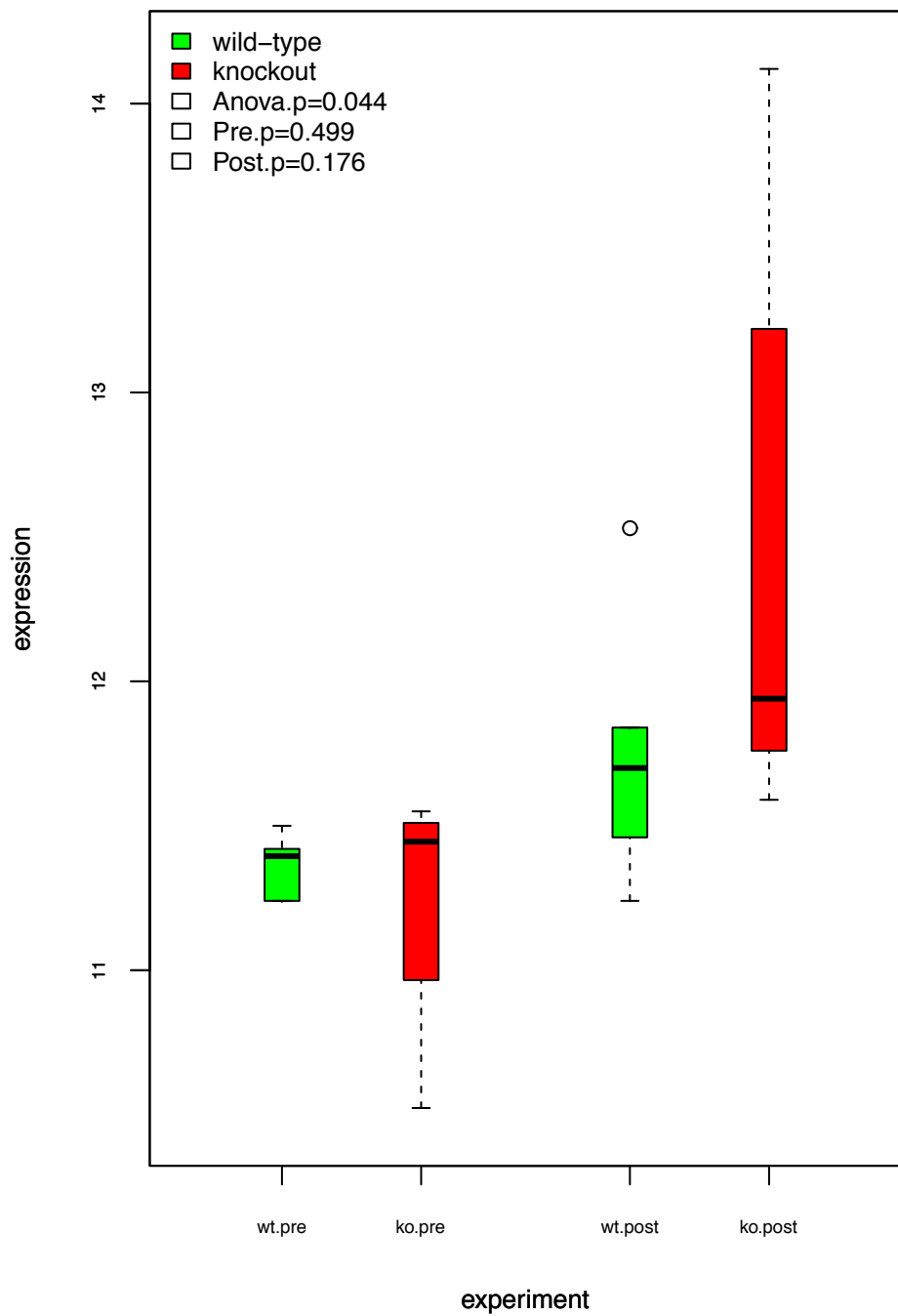
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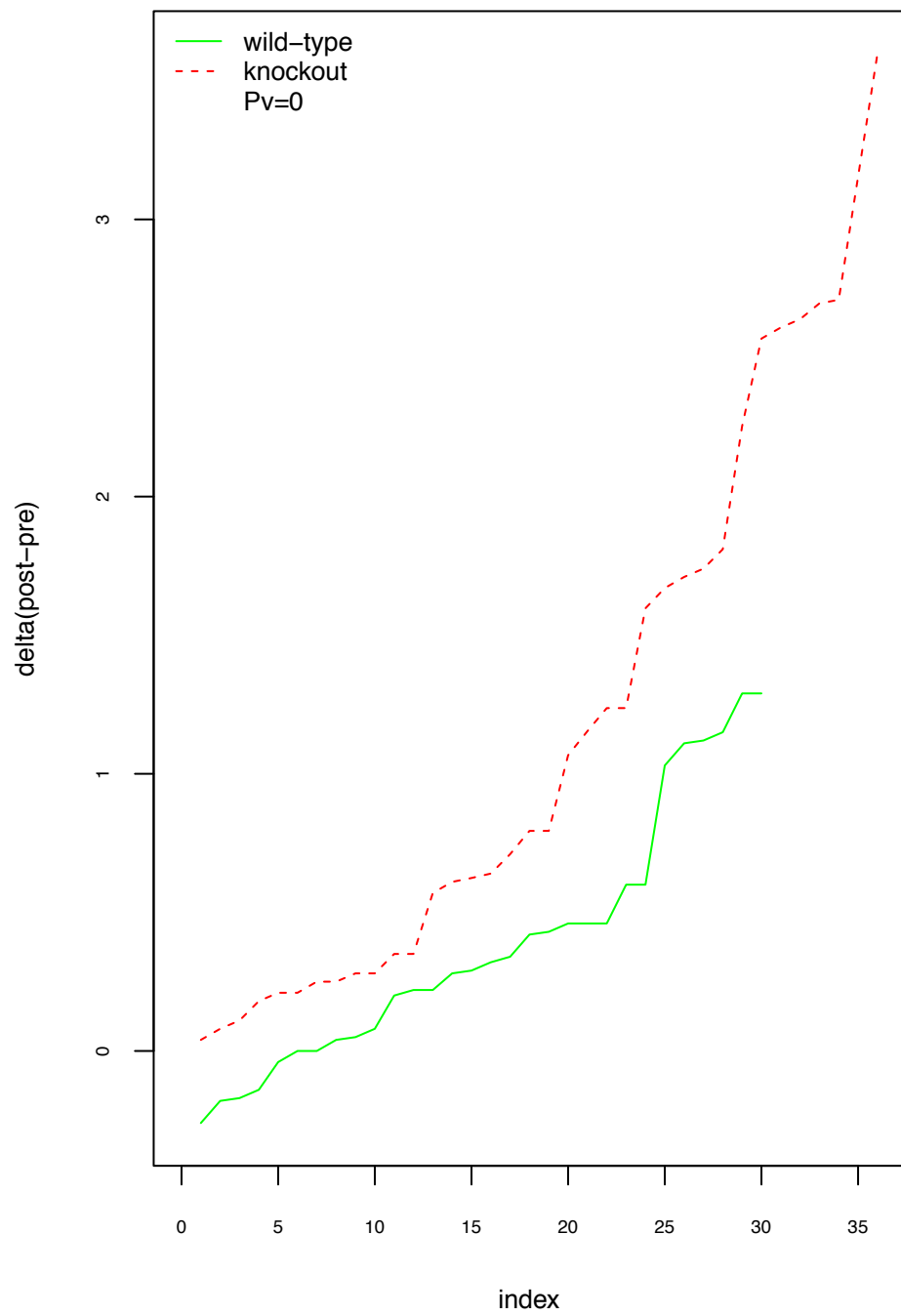
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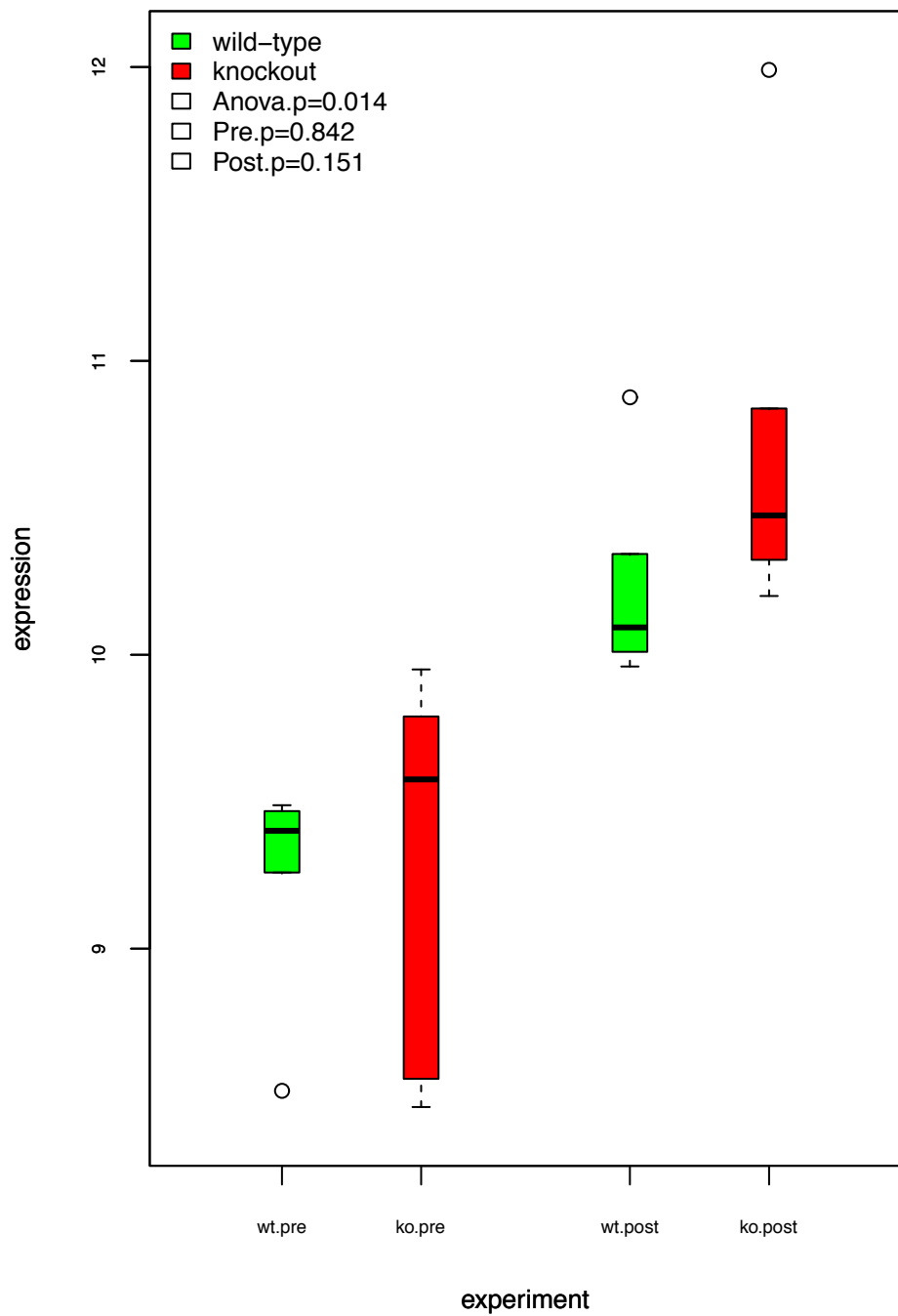
Notch2



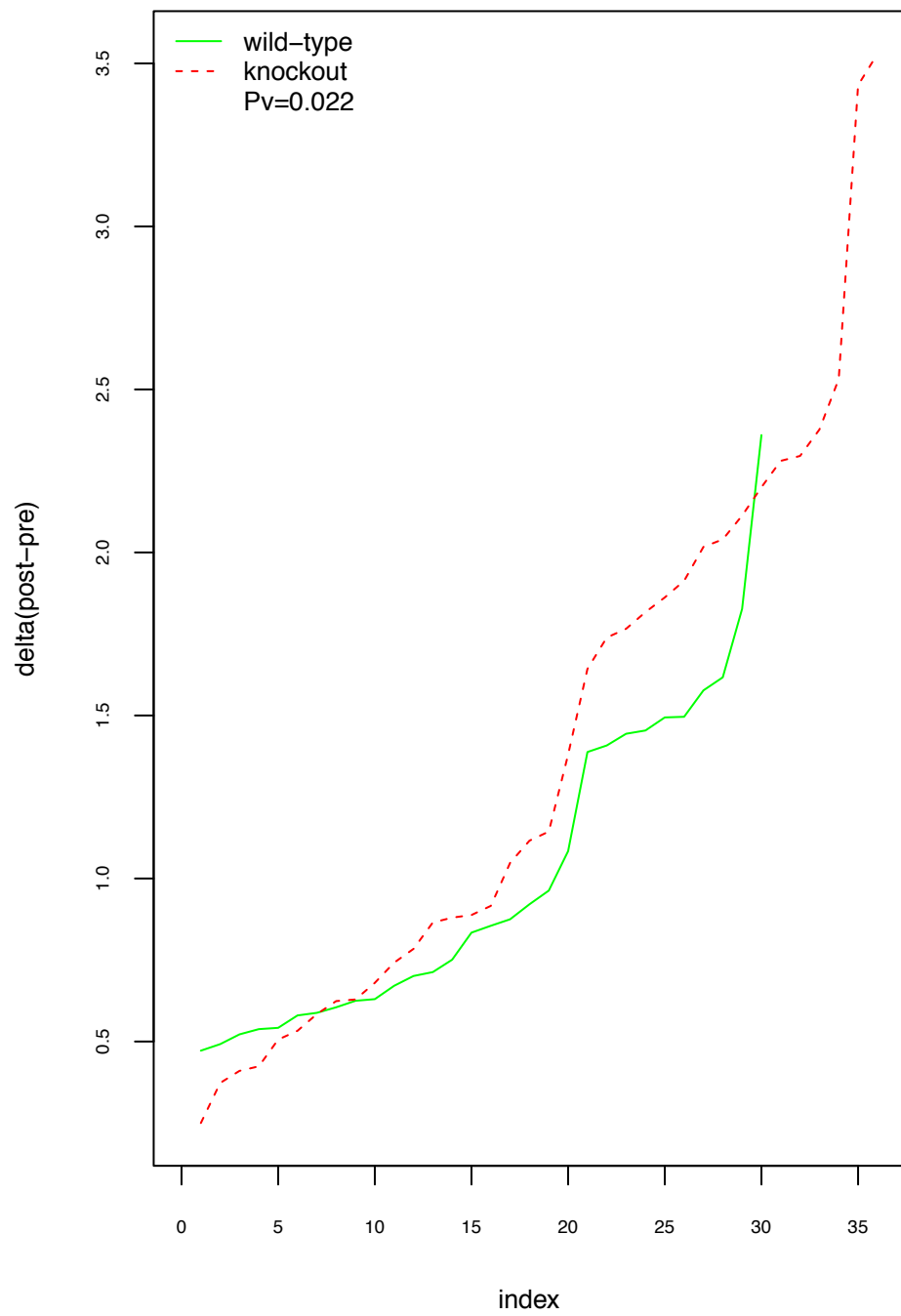
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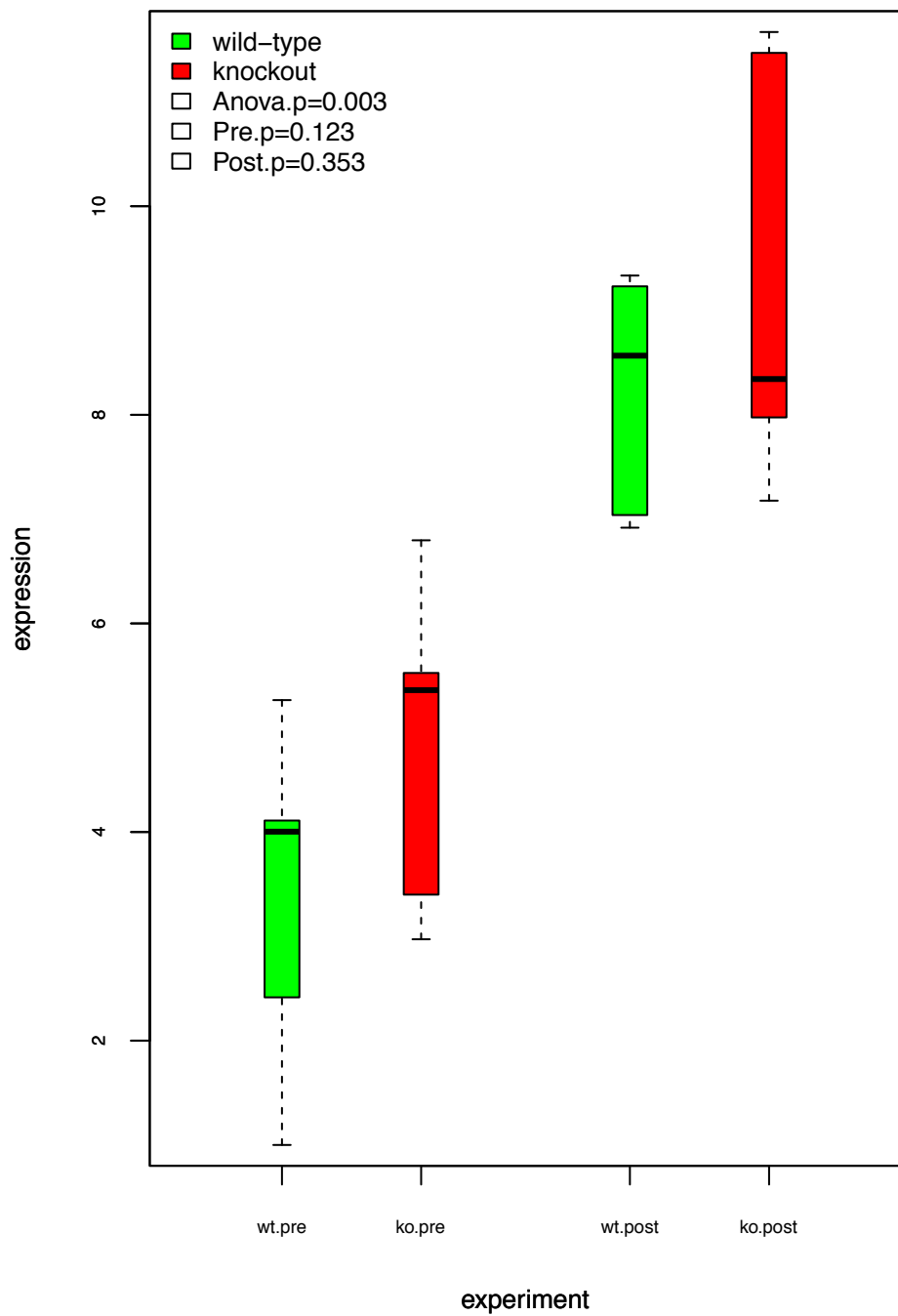
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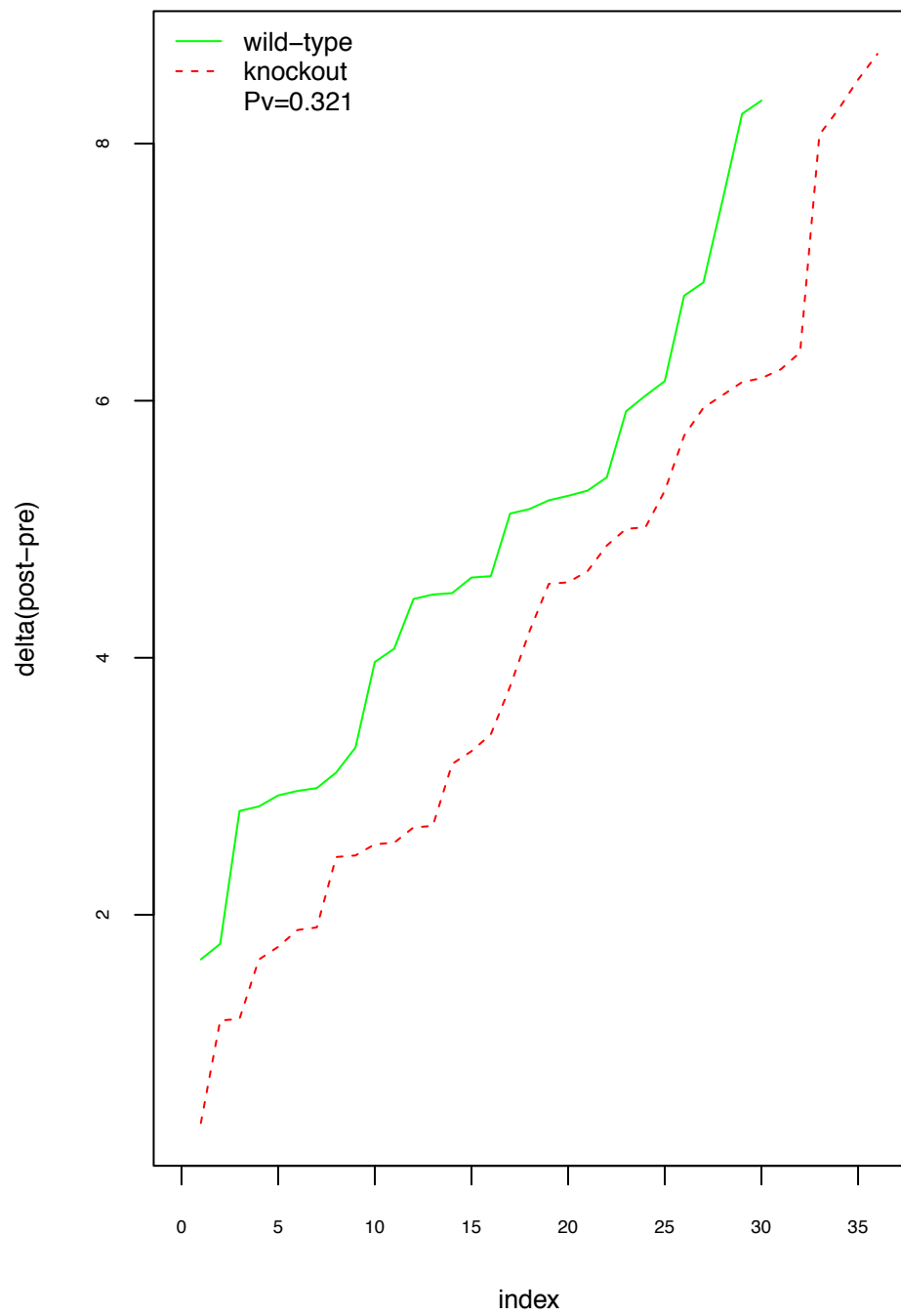
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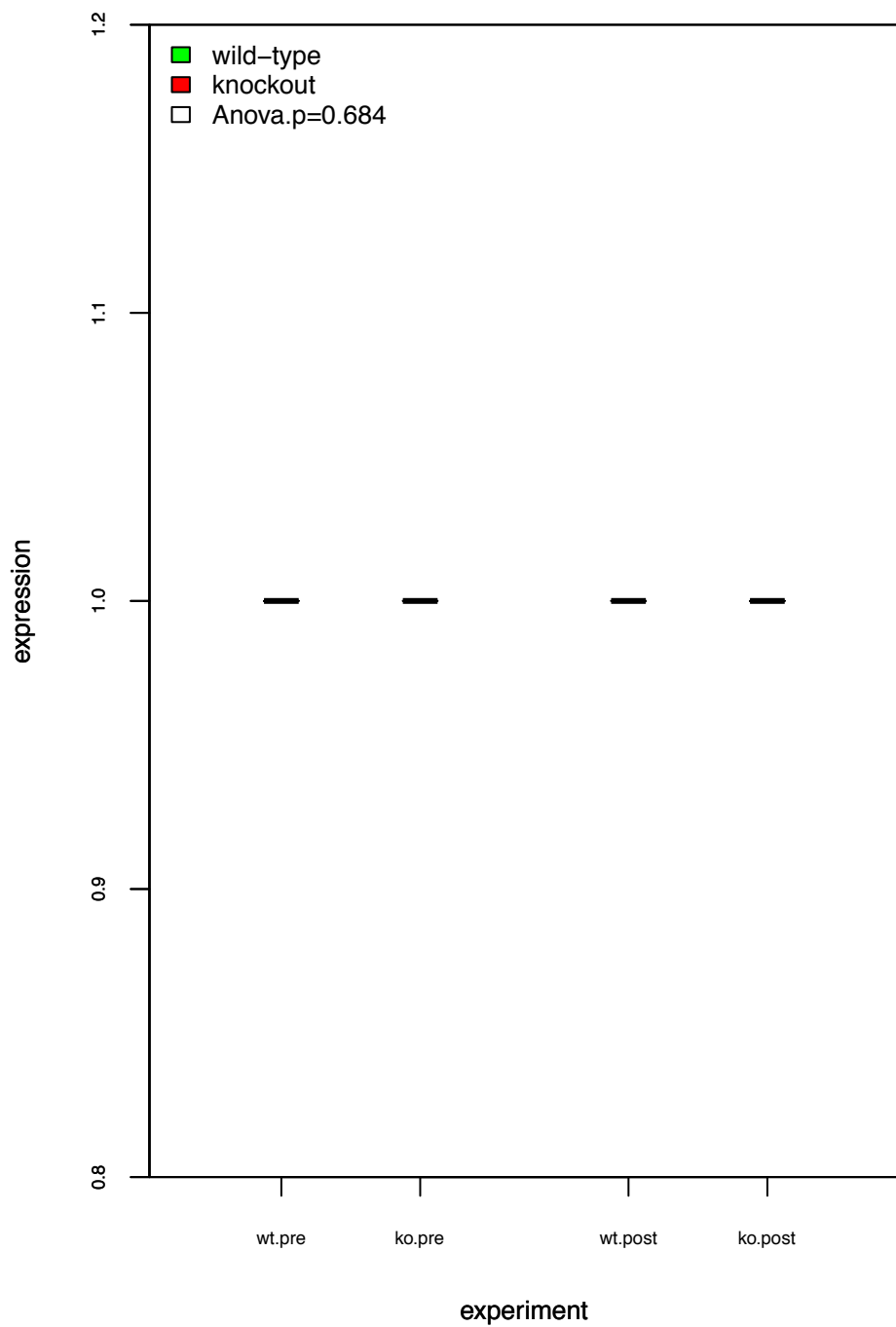
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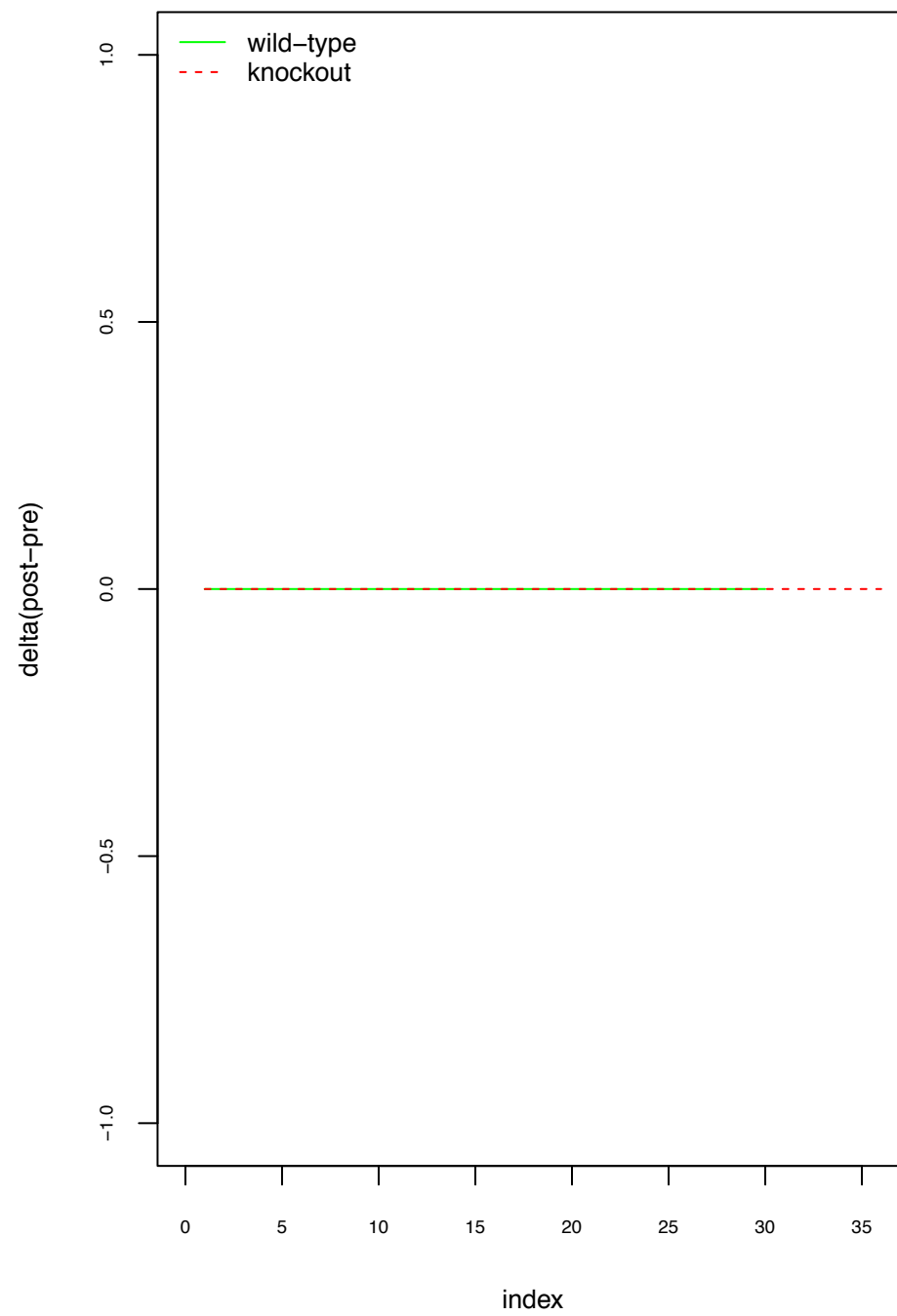
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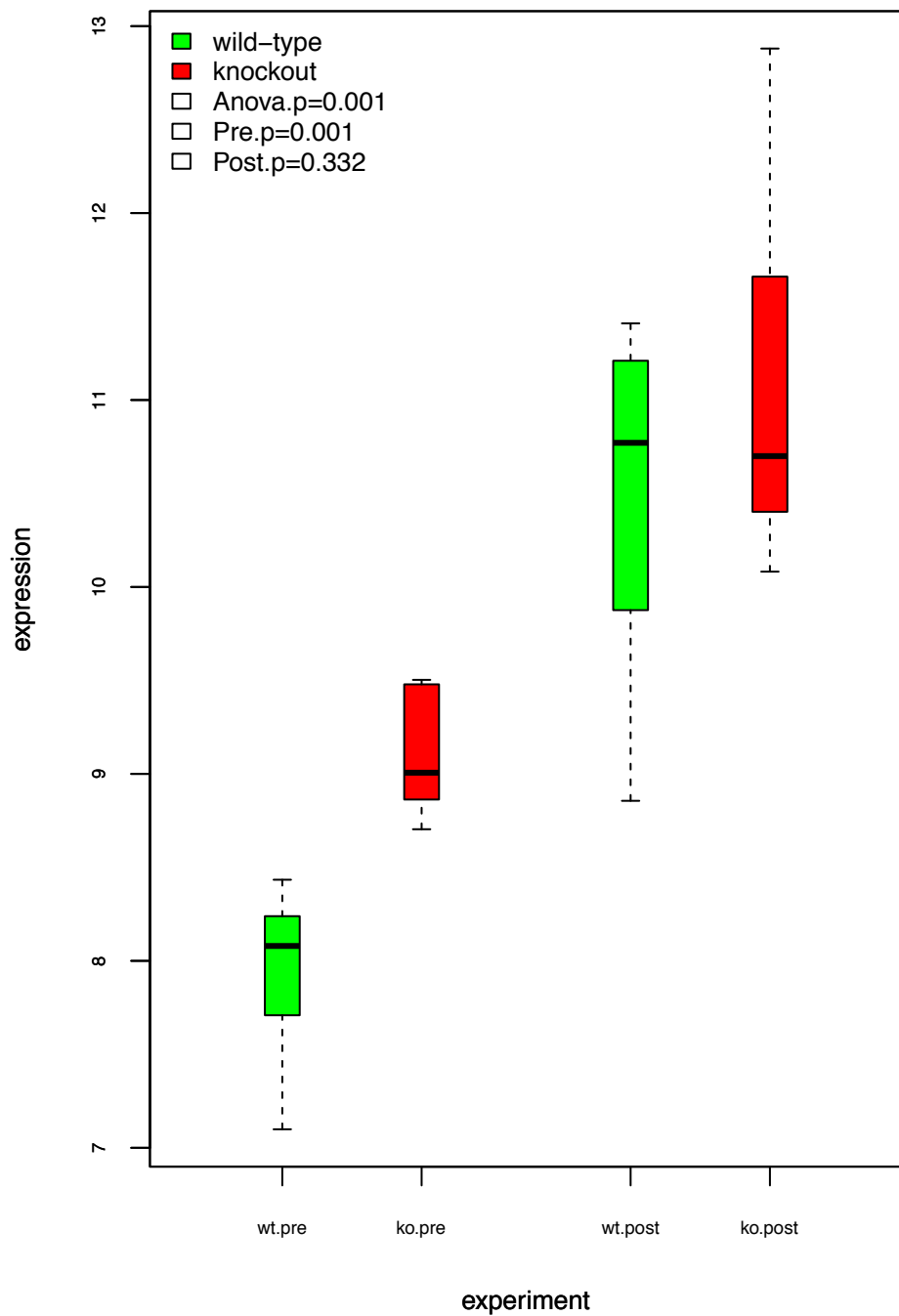
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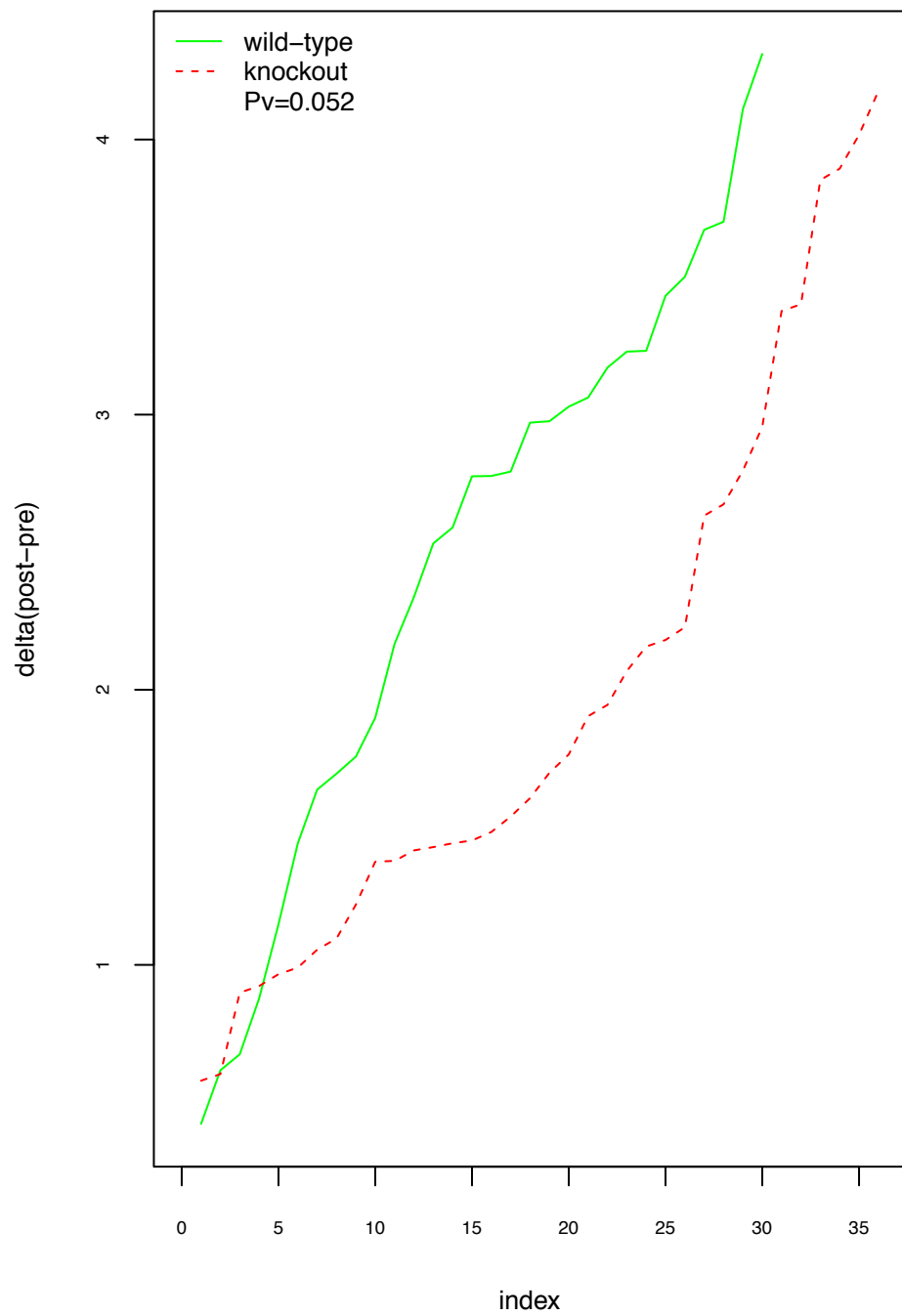
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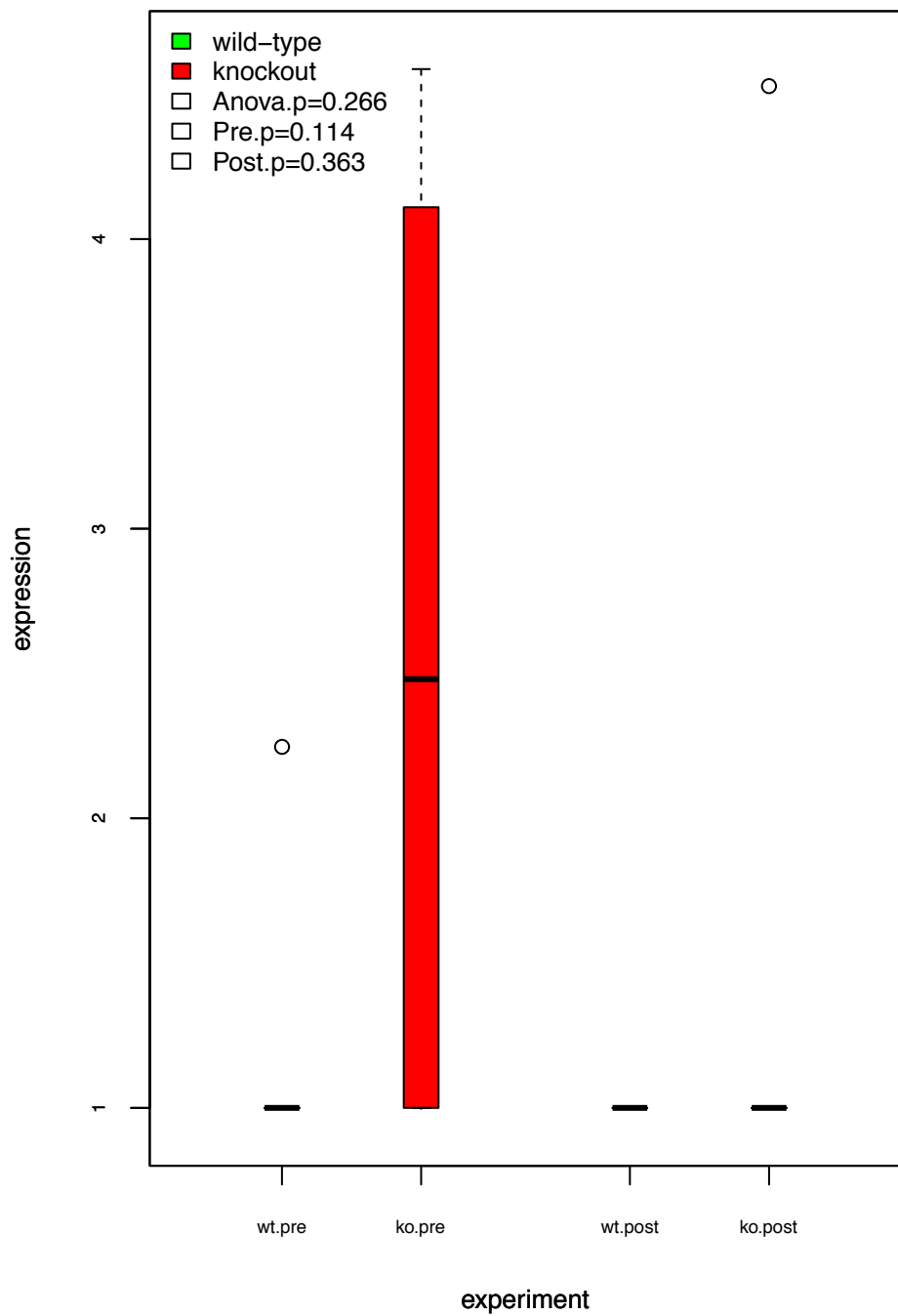
Osx(Sp7)



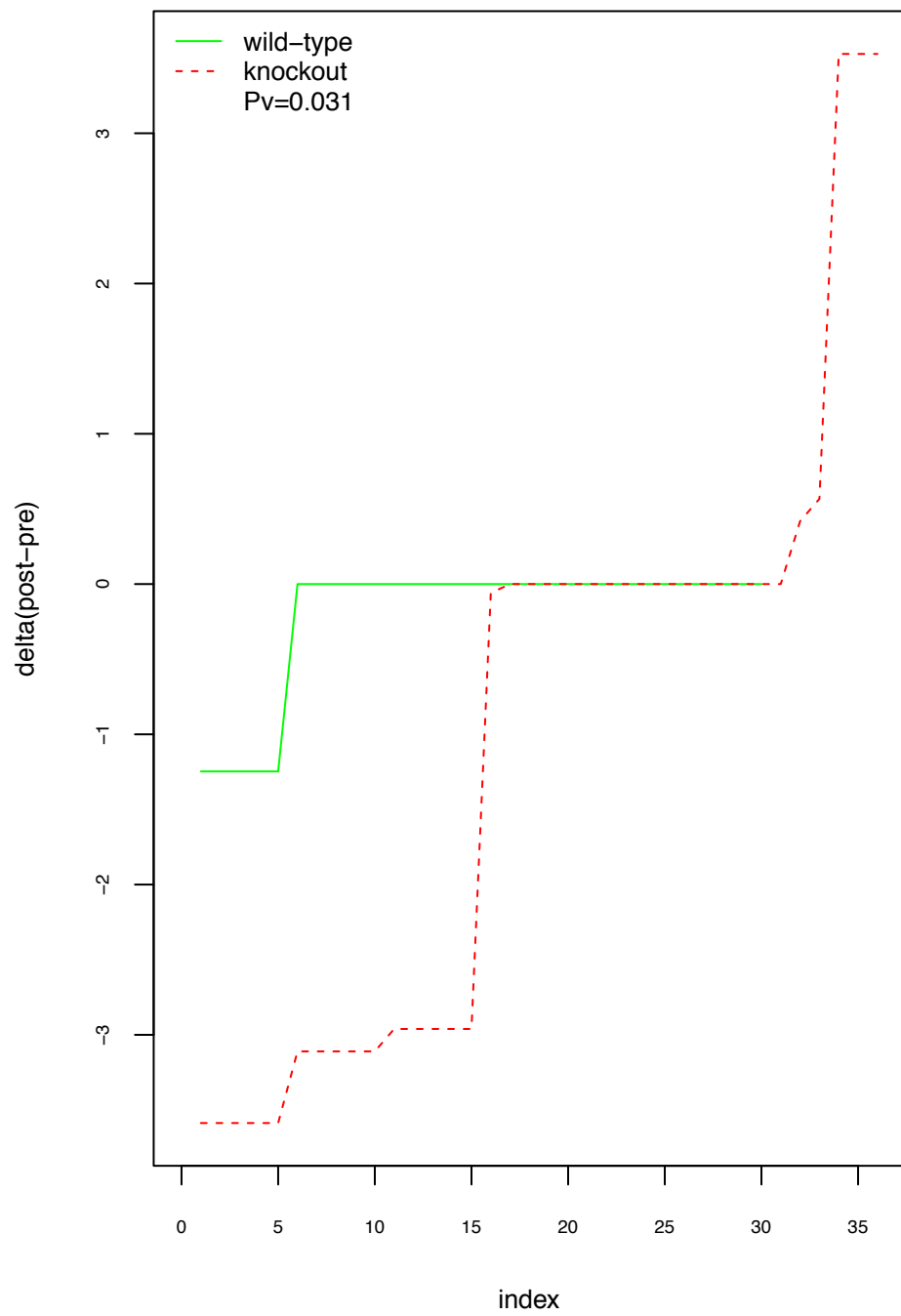
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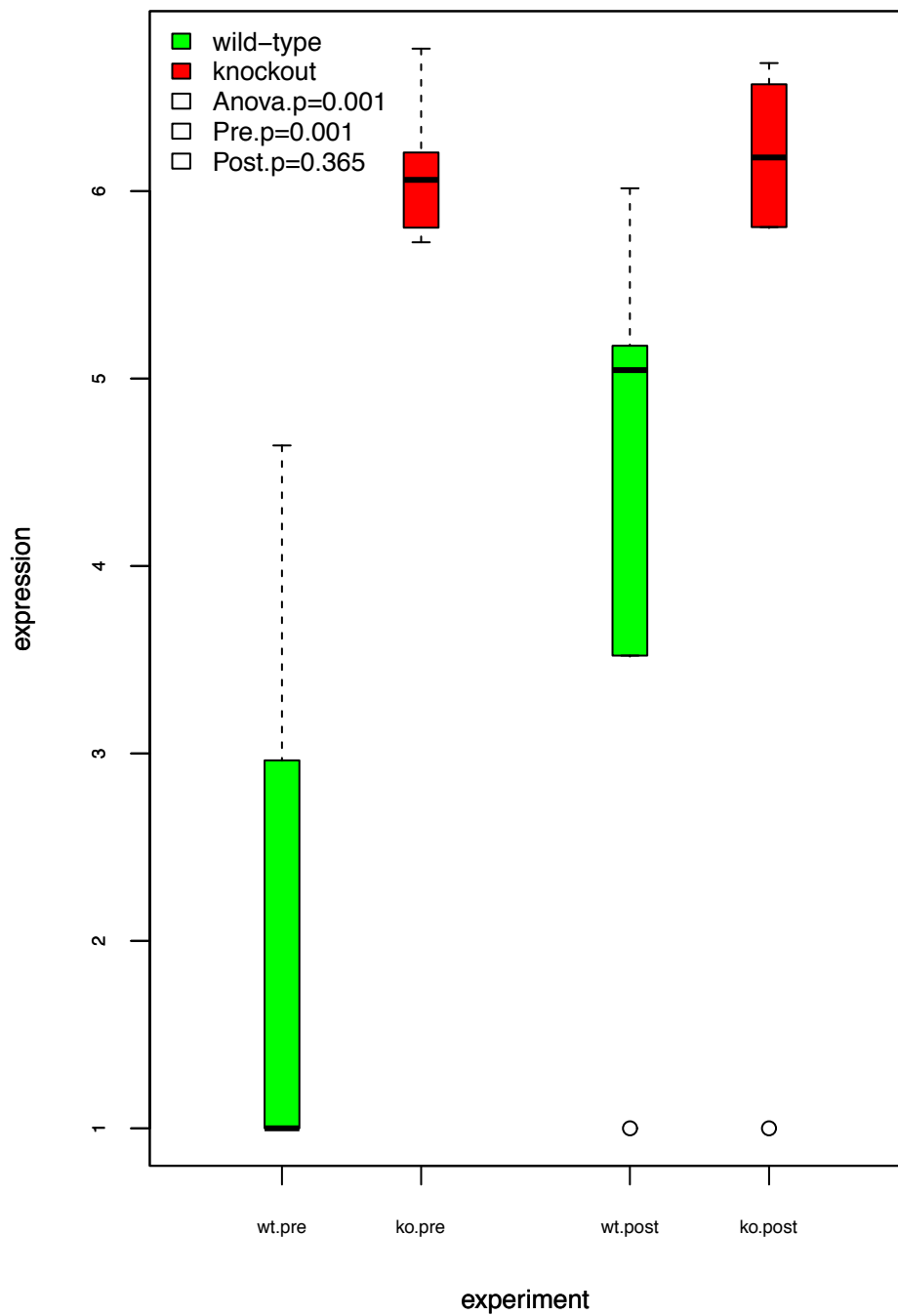
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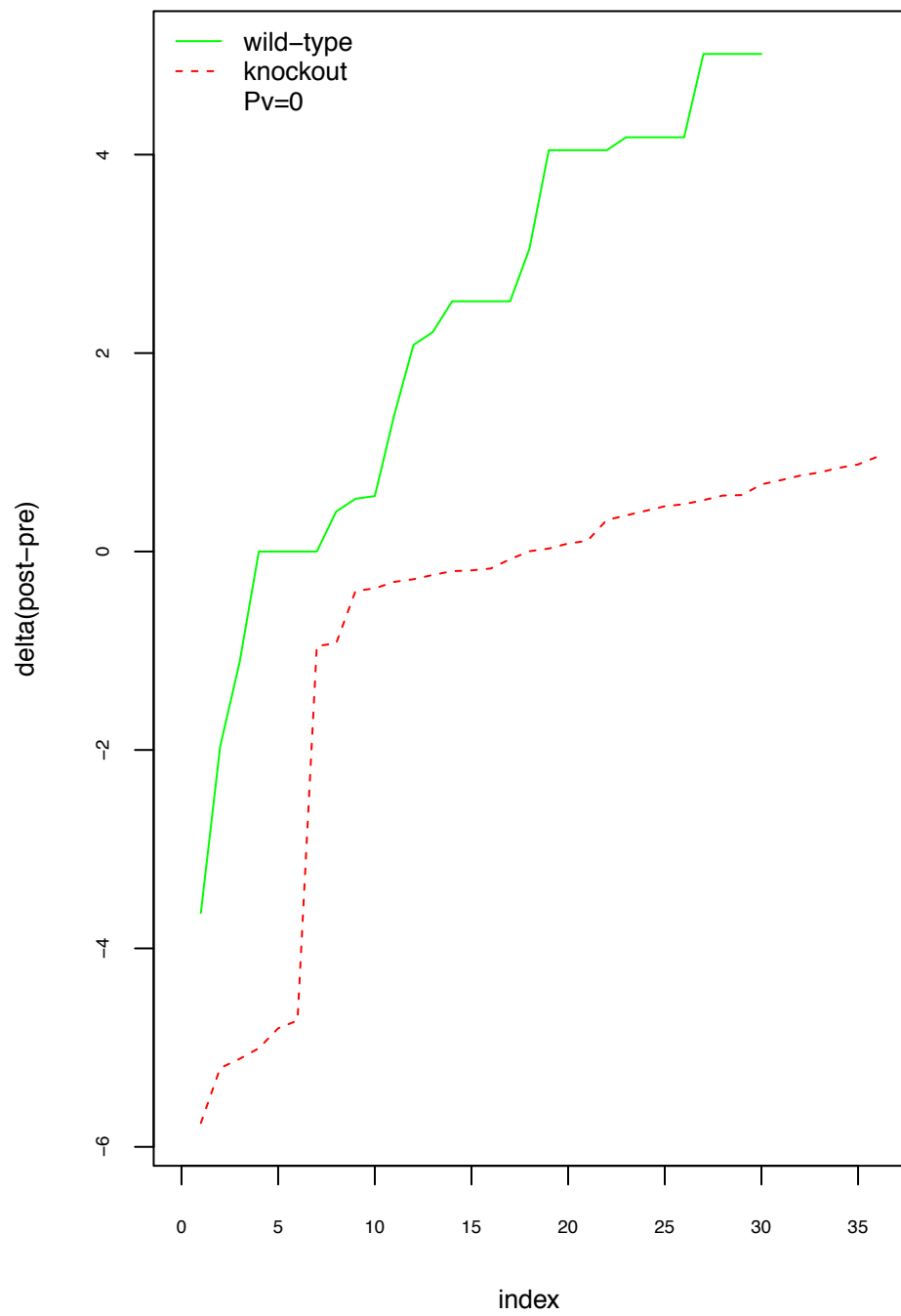
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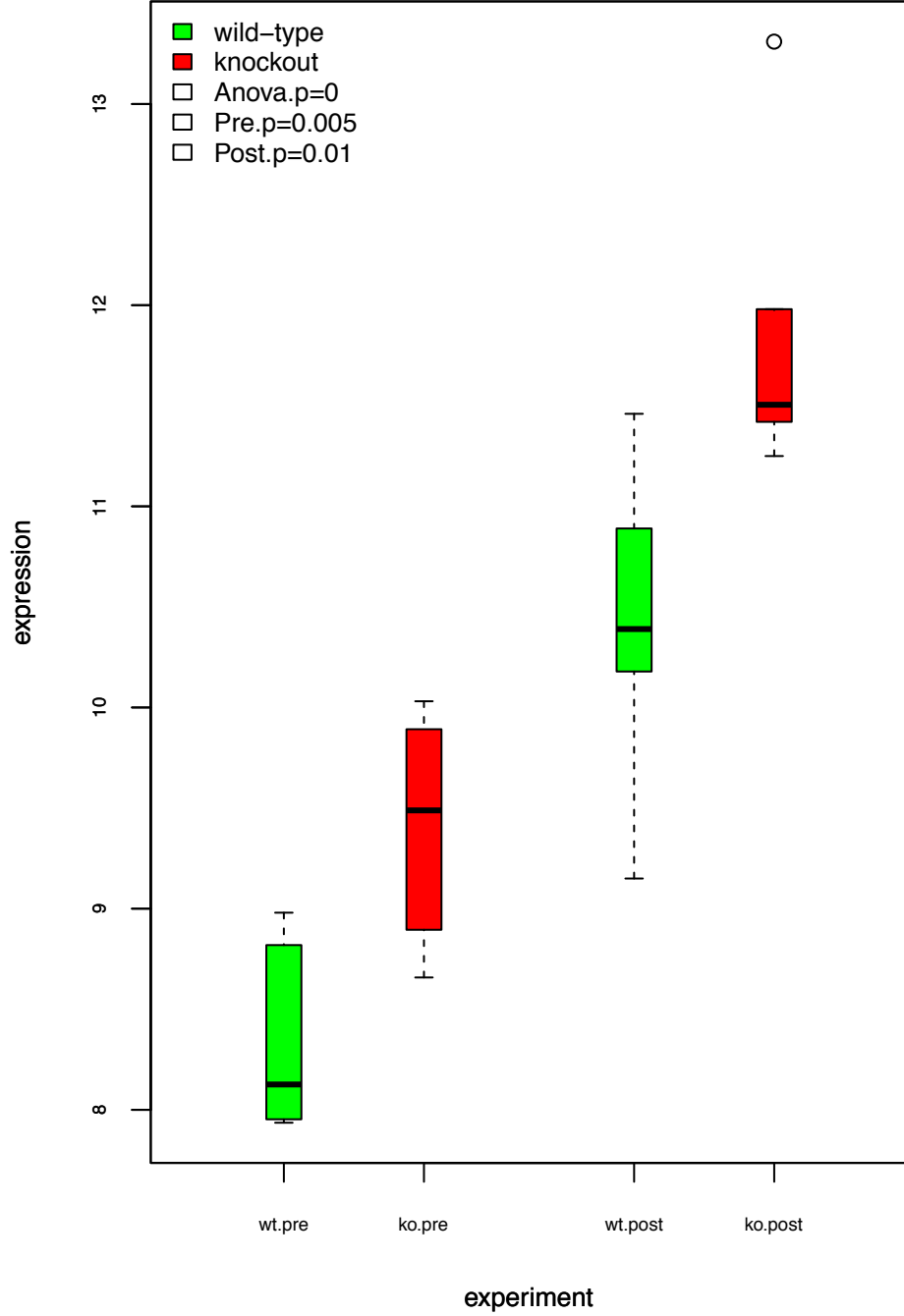
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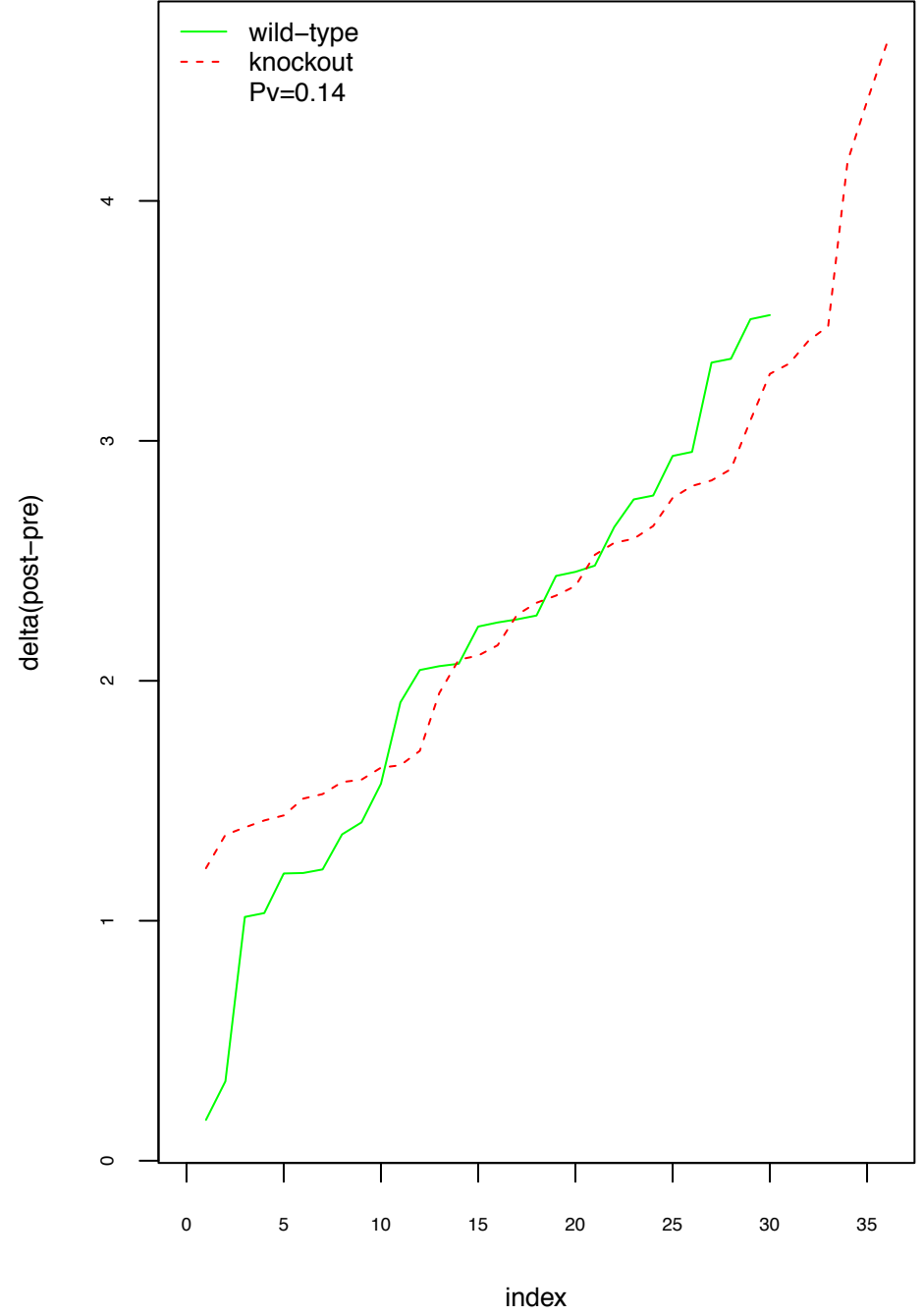
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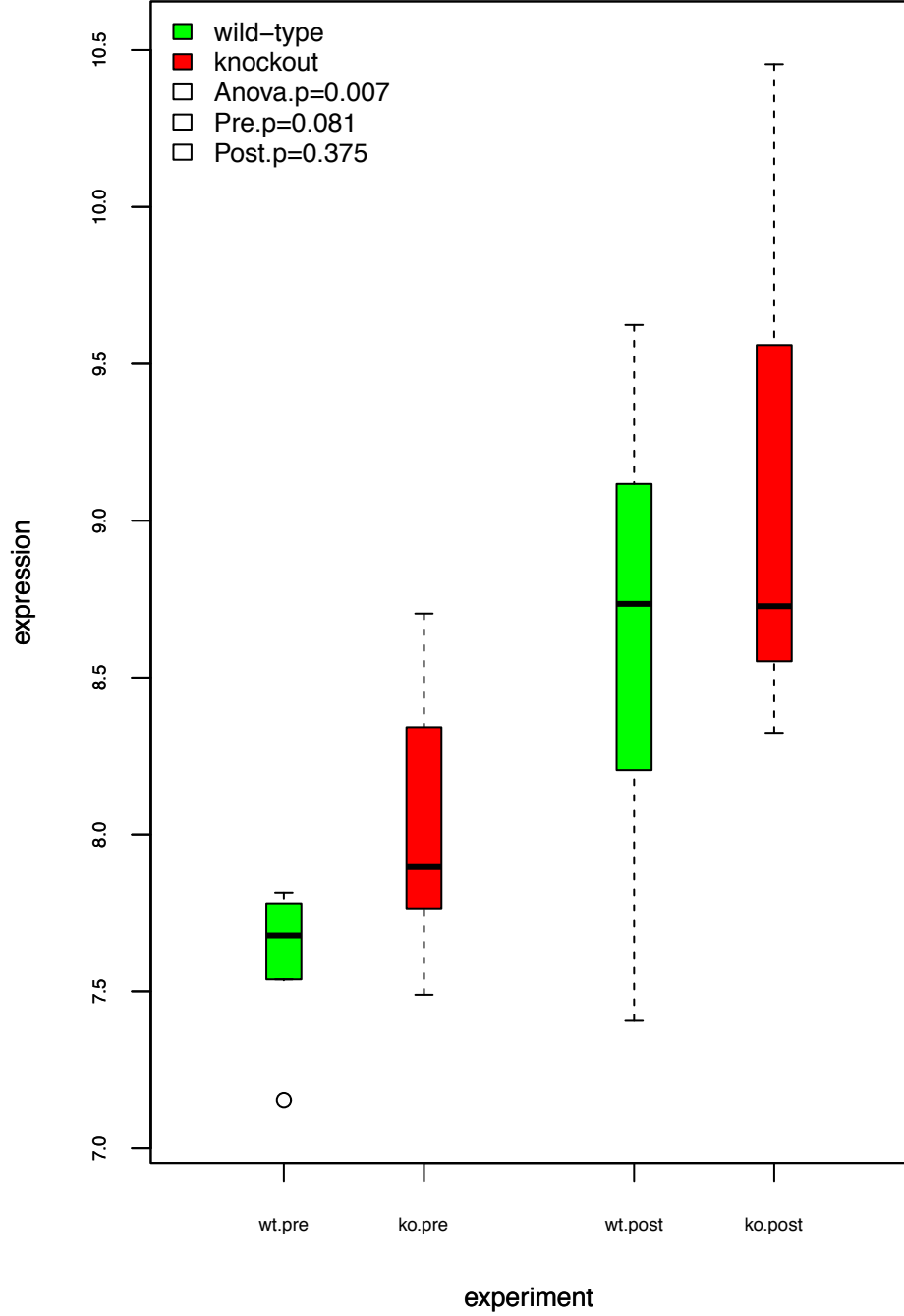
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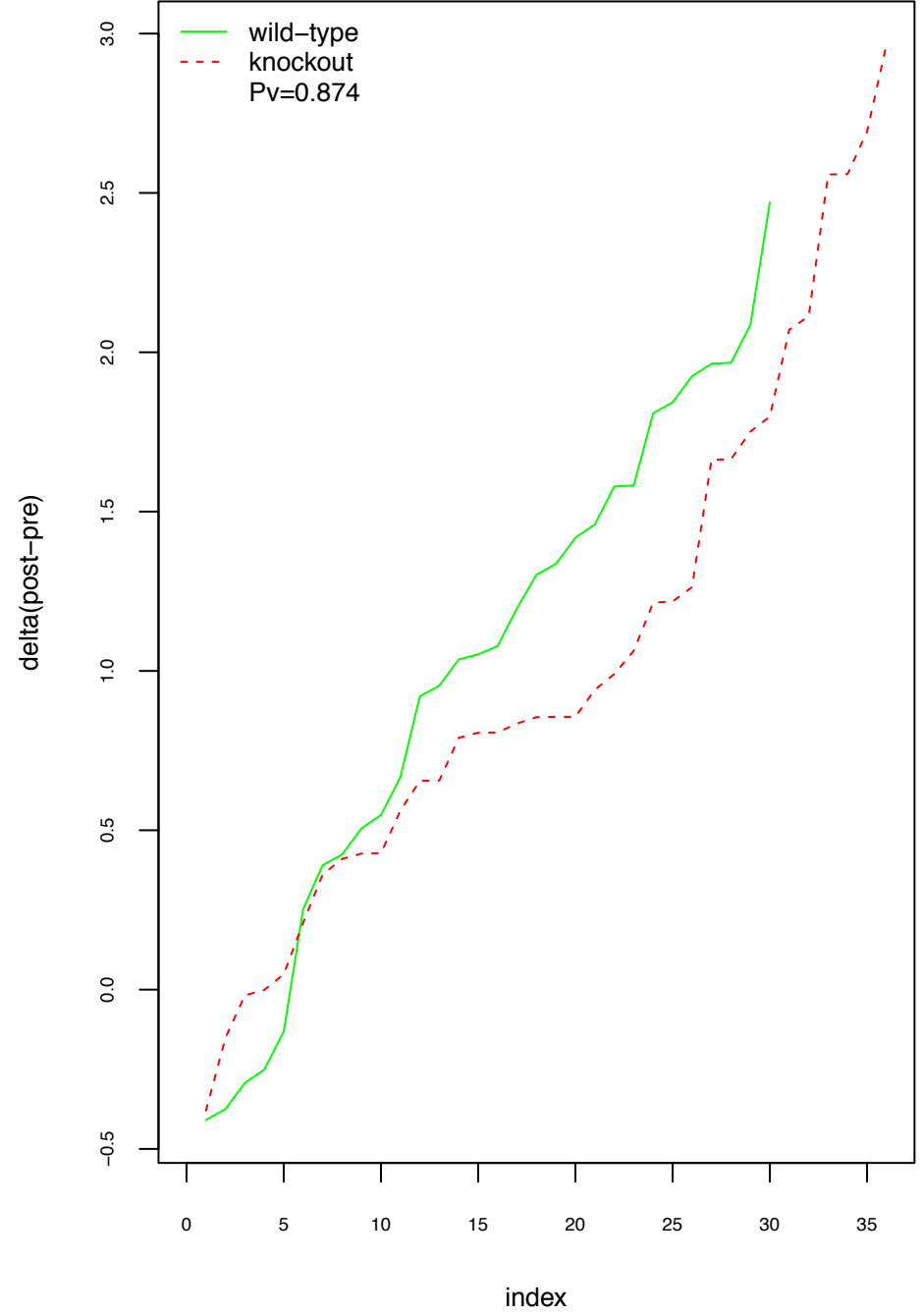
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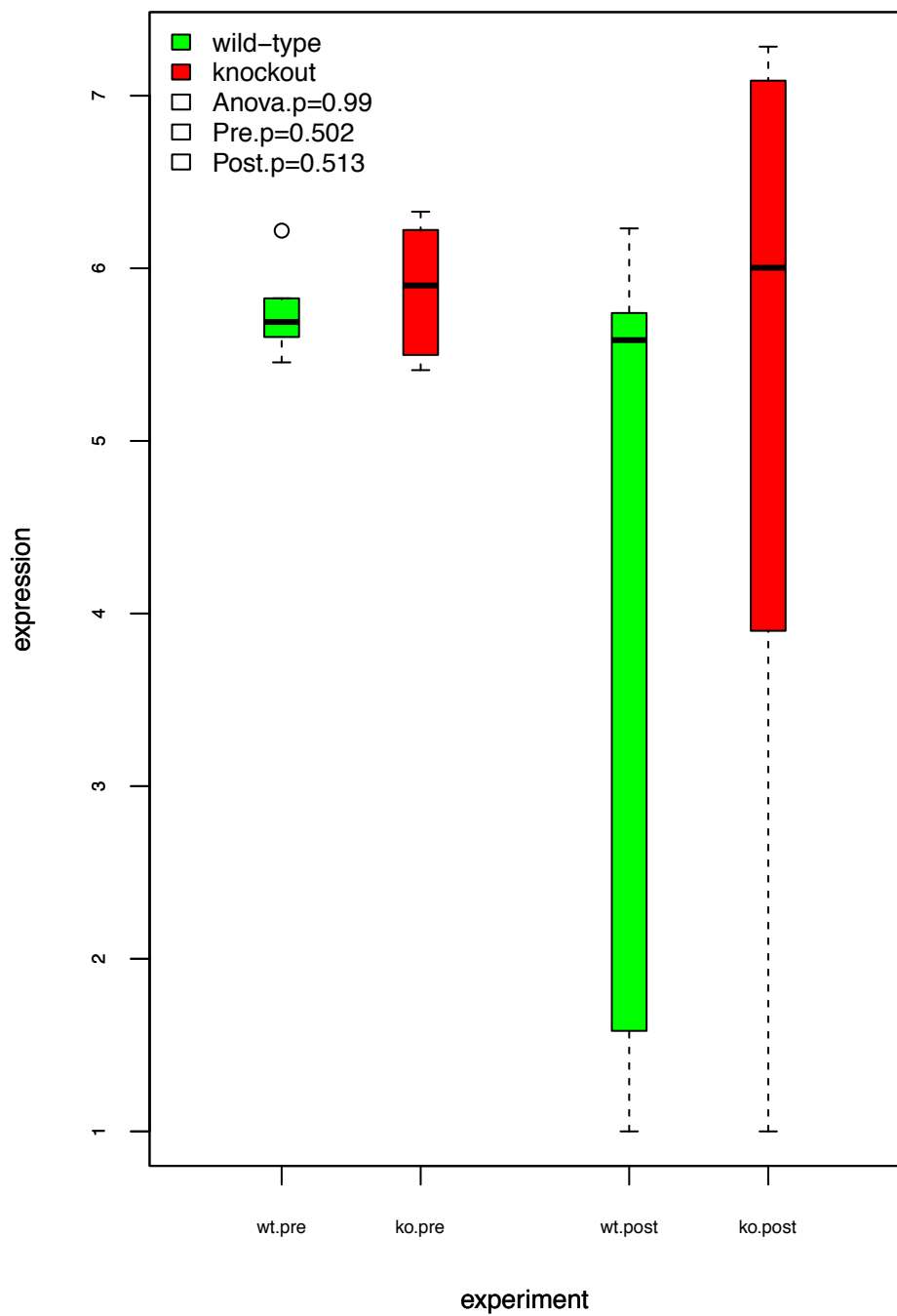
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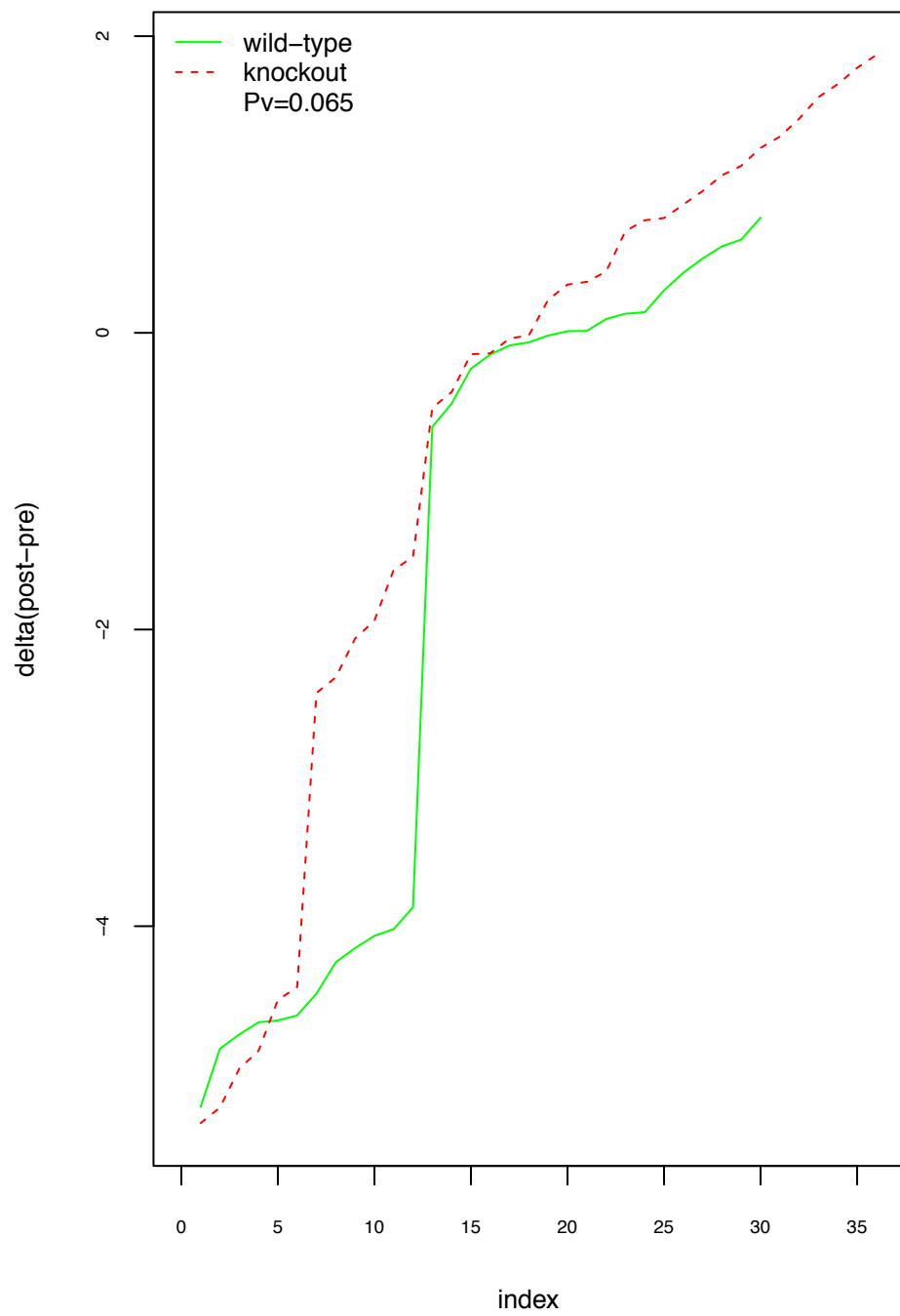
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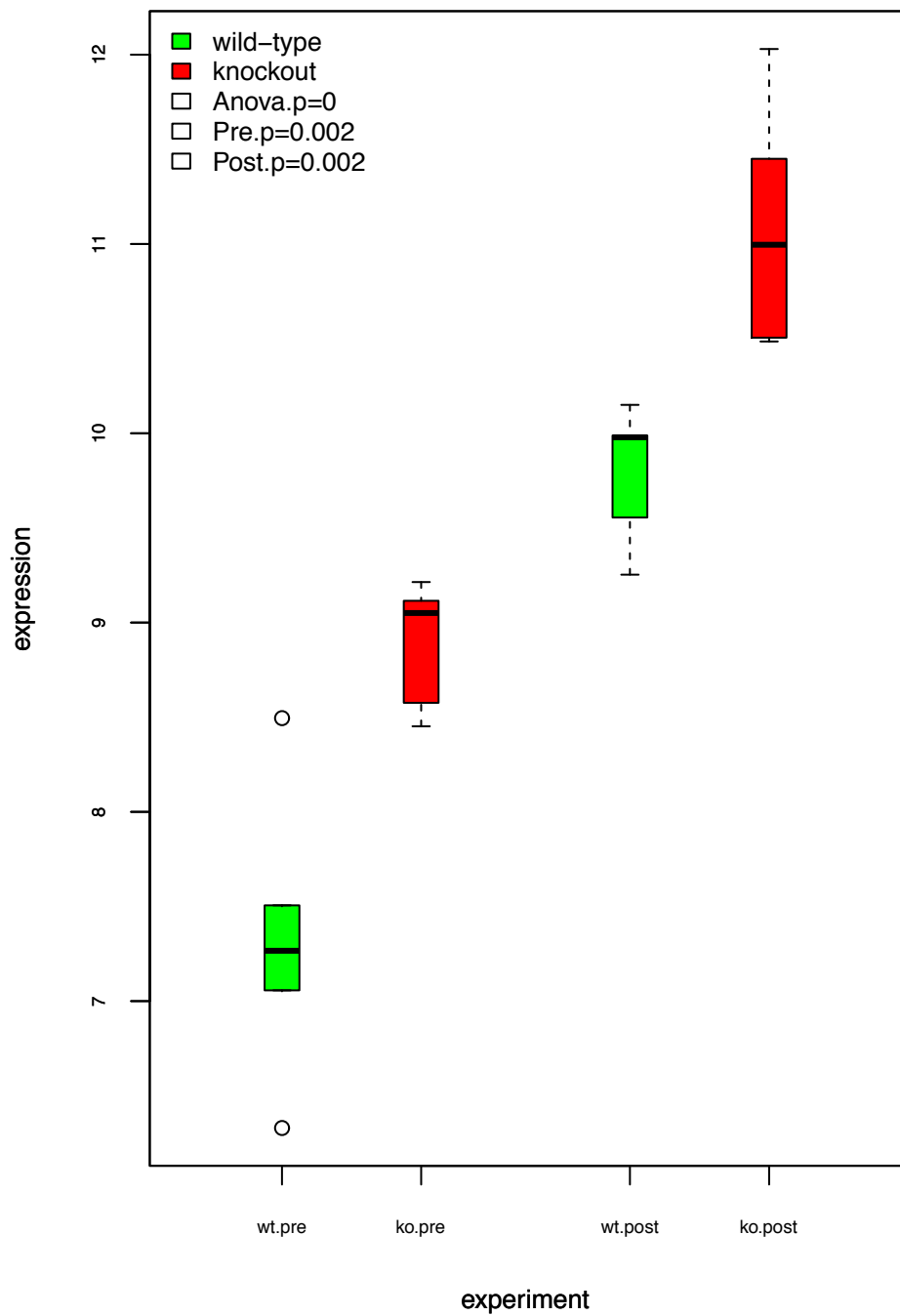
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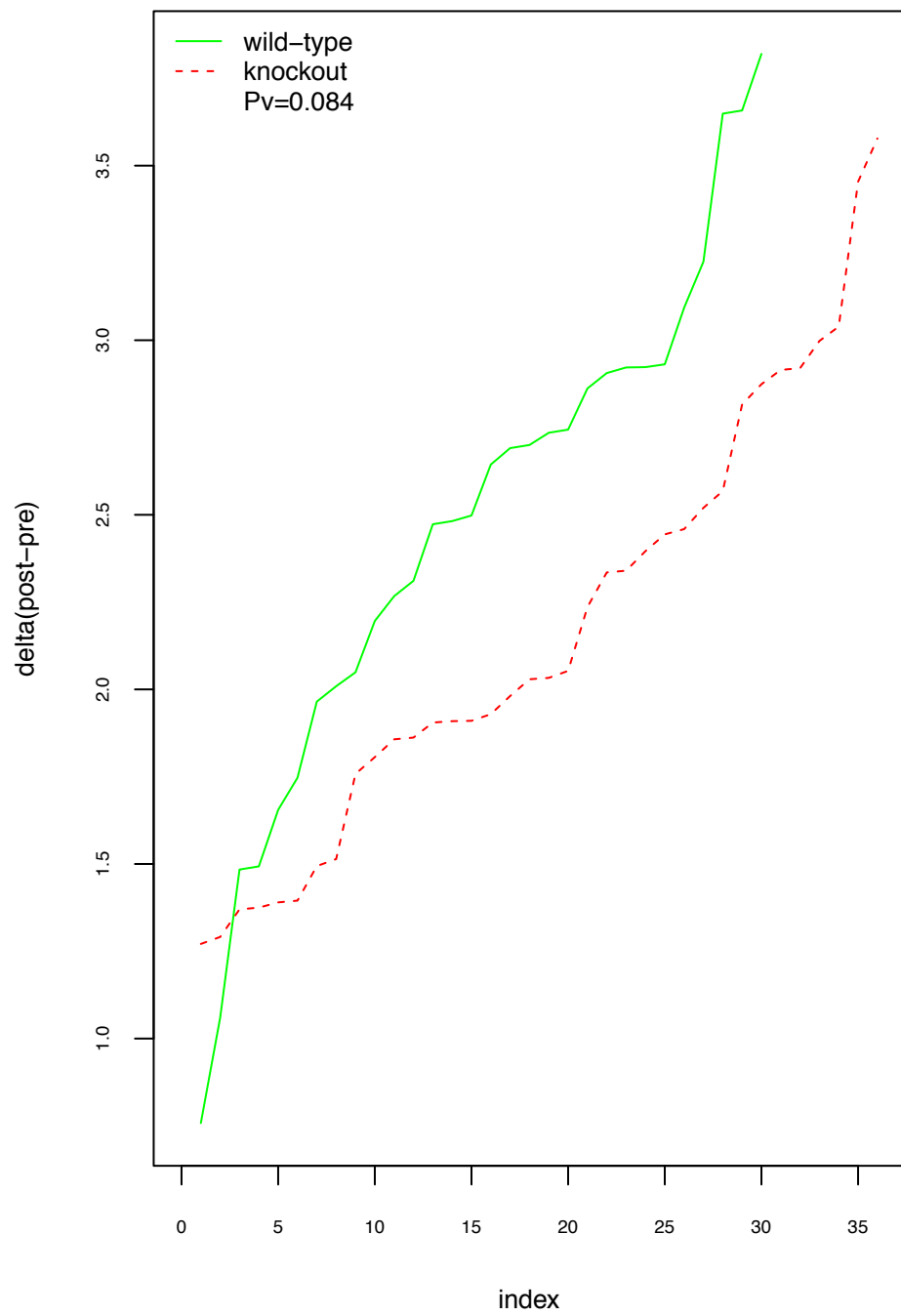
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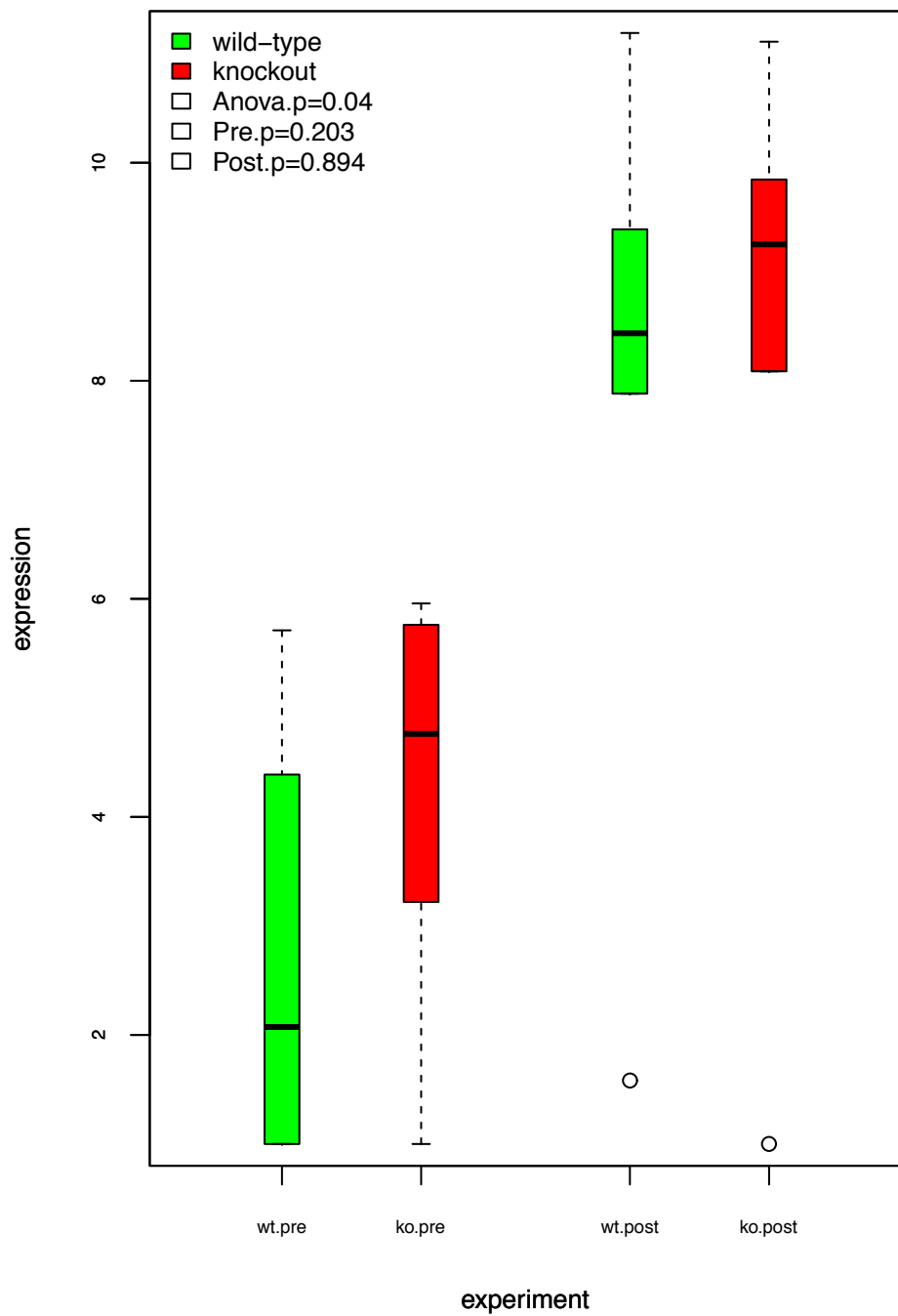
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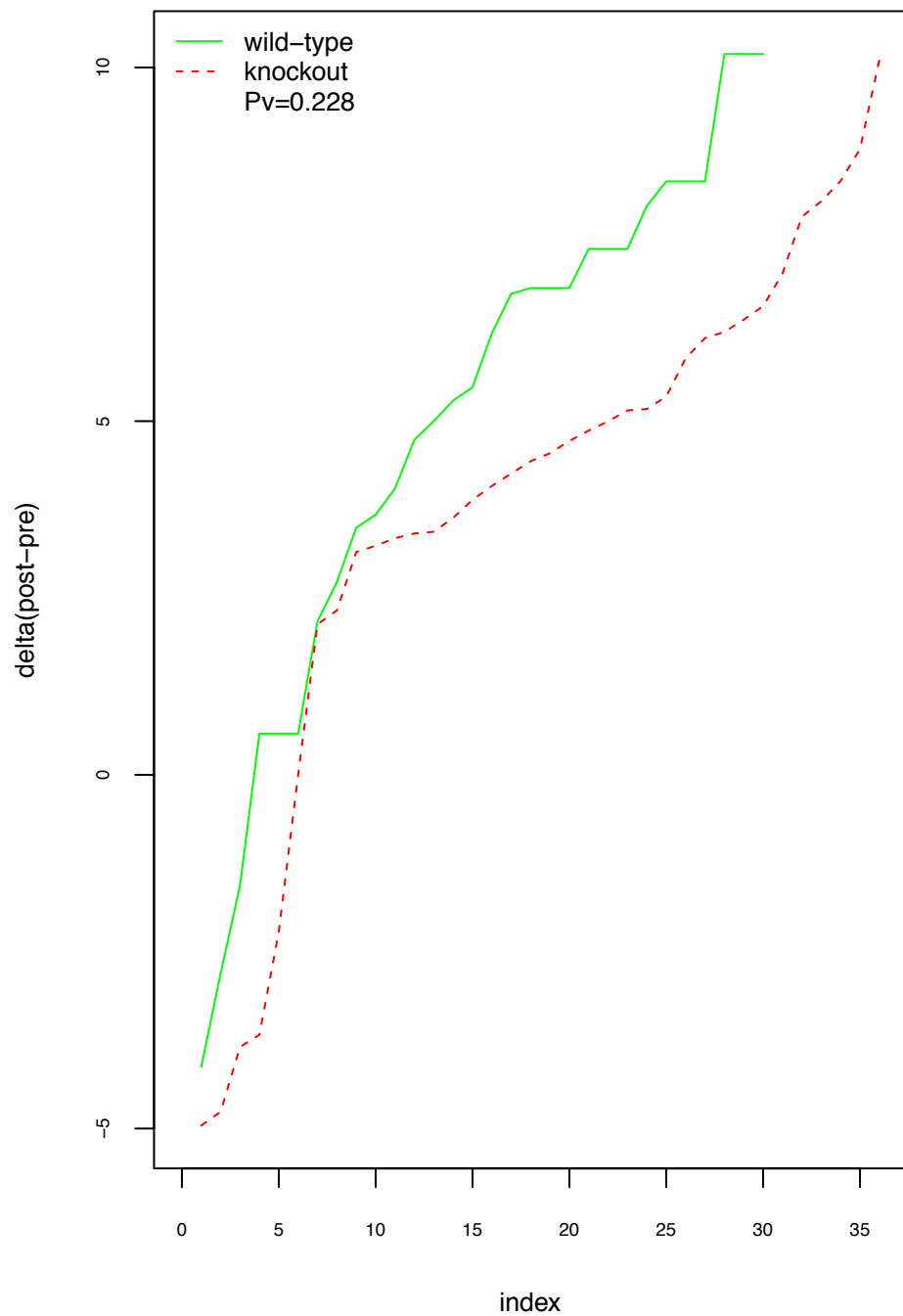
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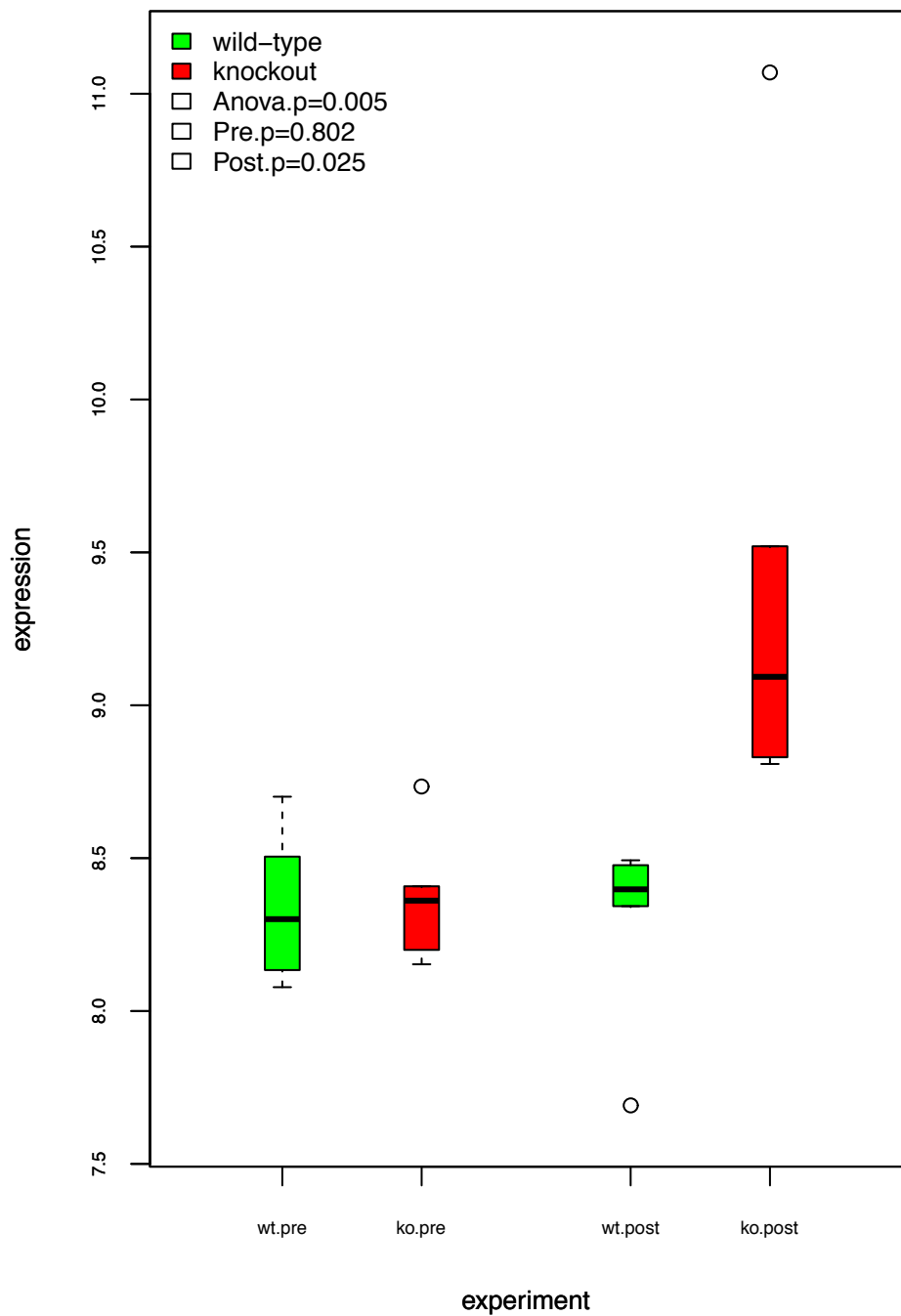
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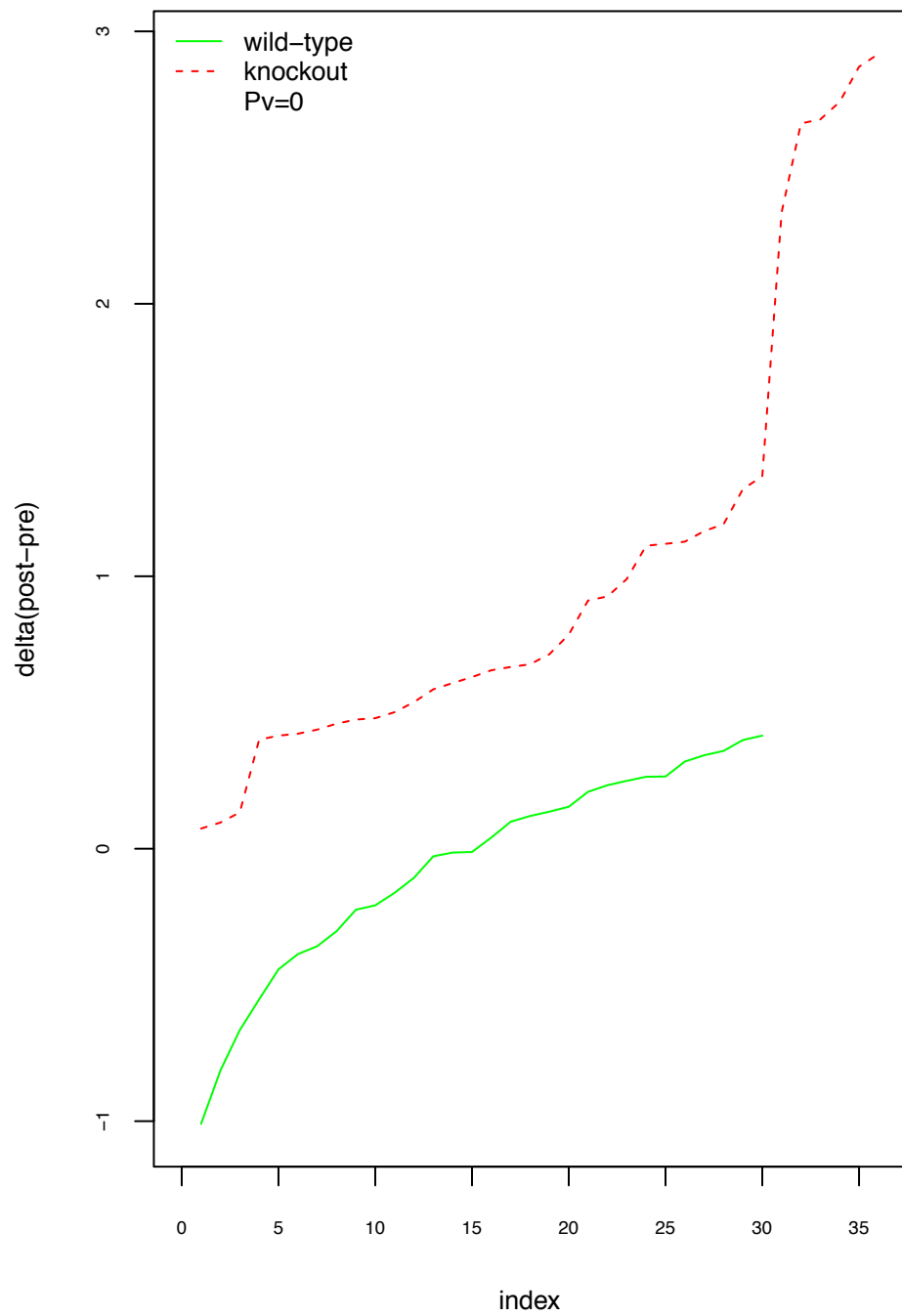
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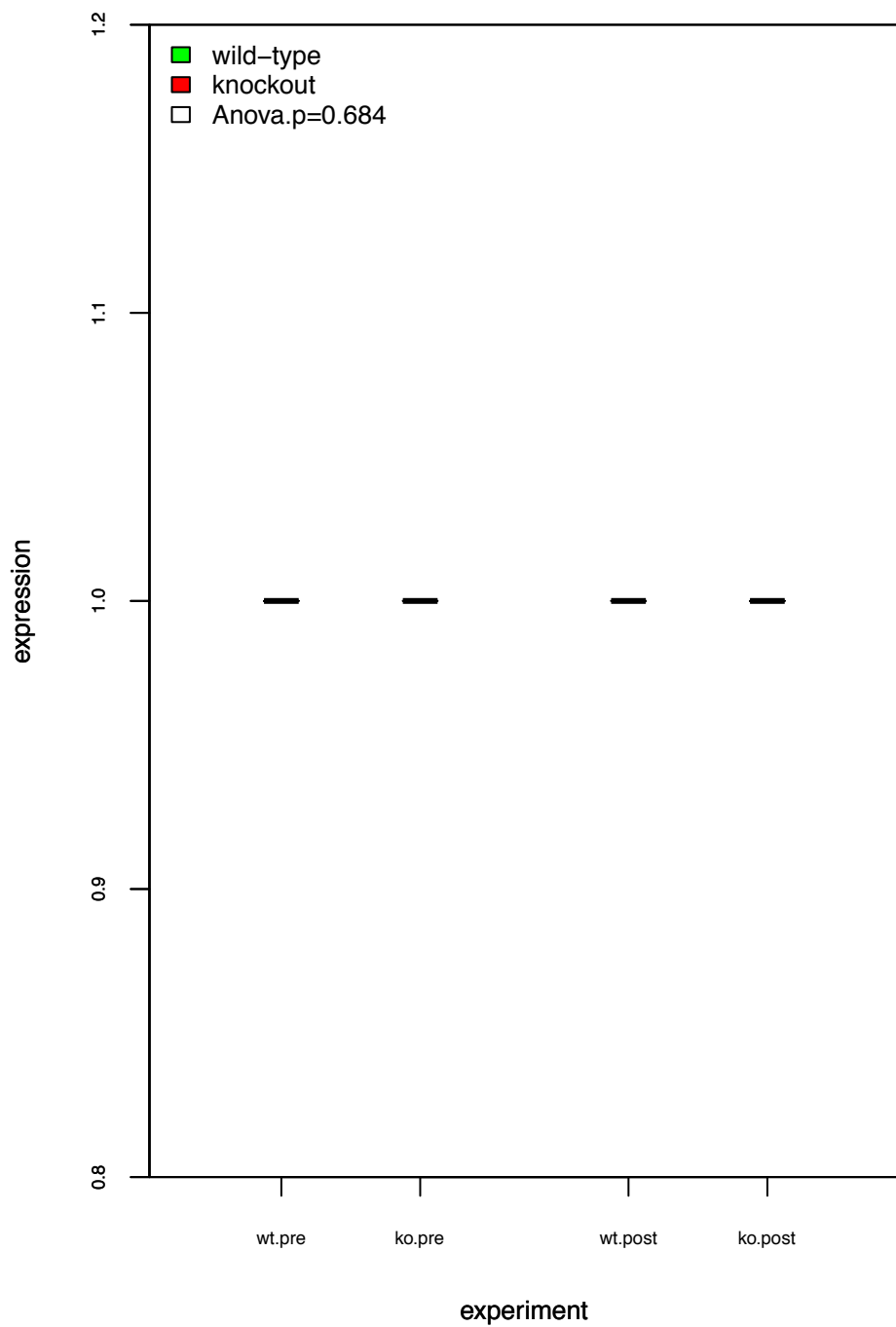
Pparg



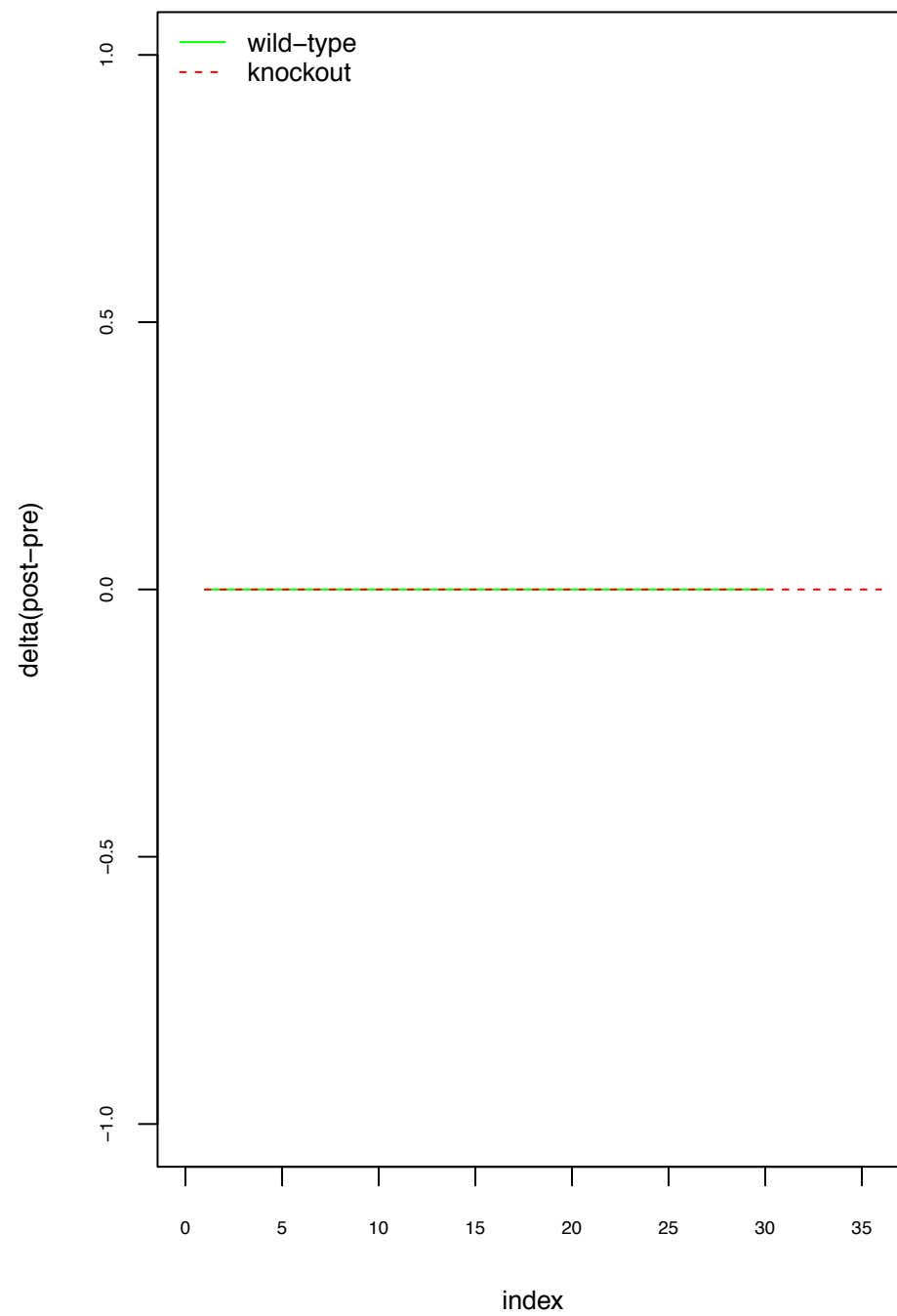
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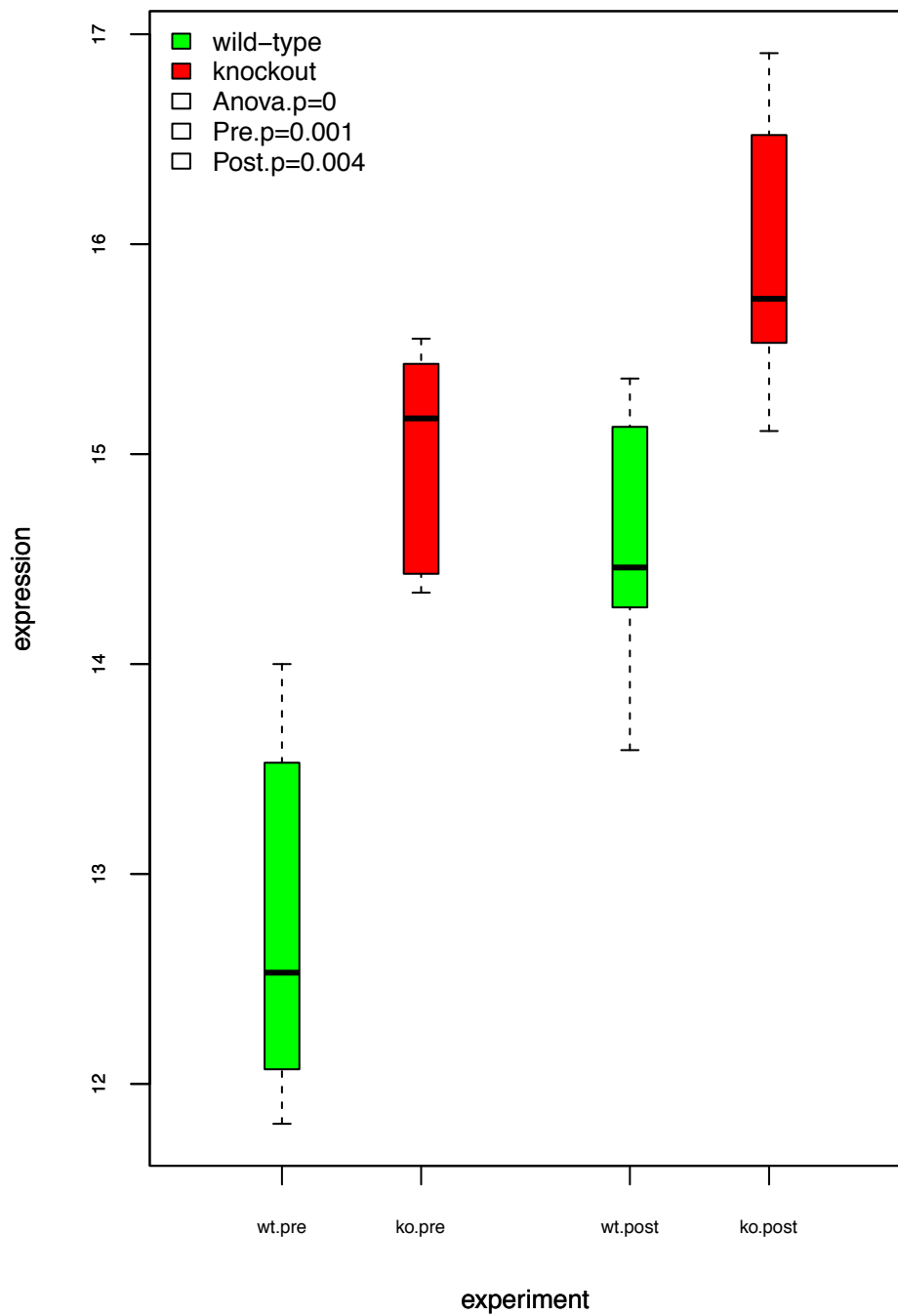
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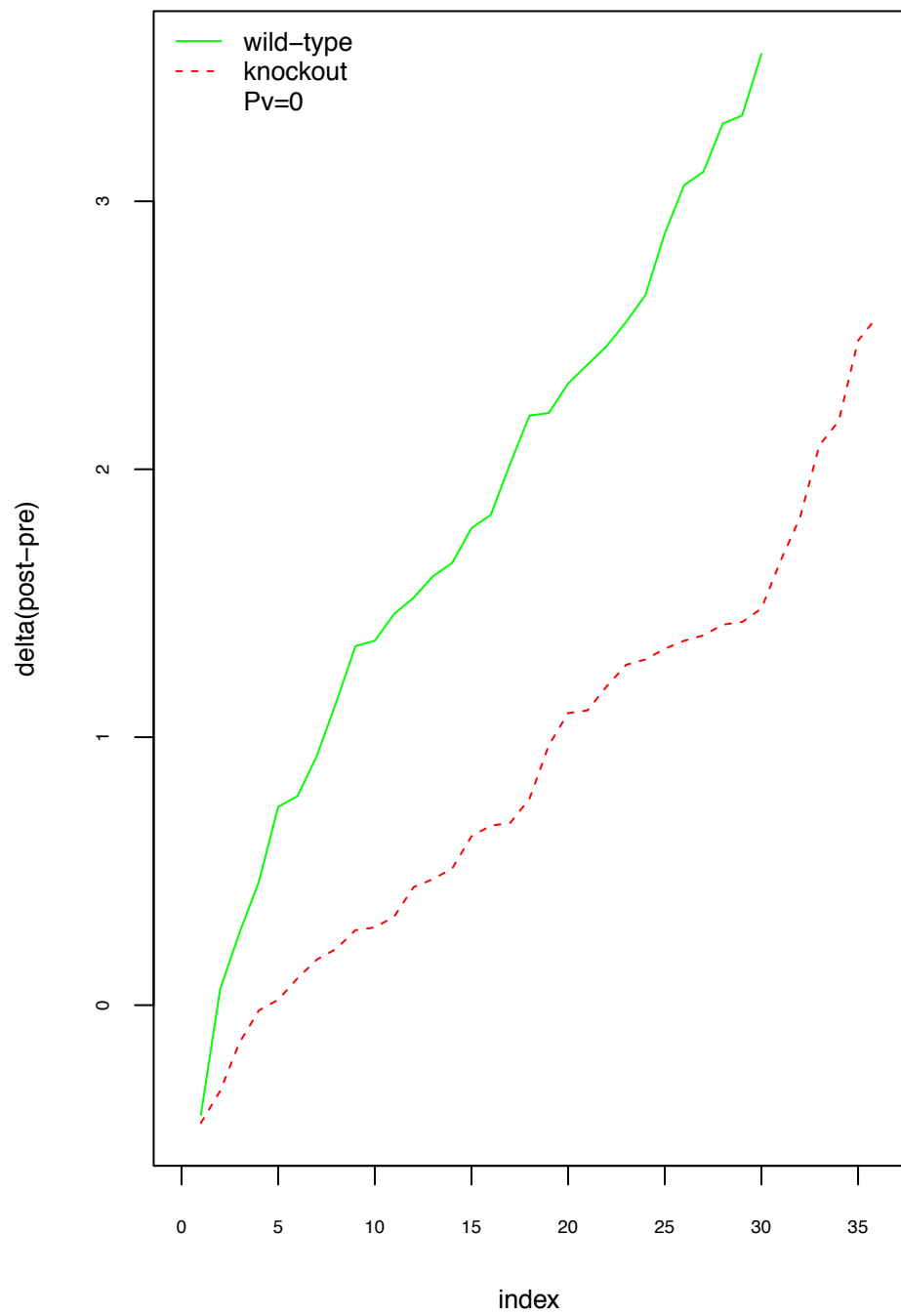
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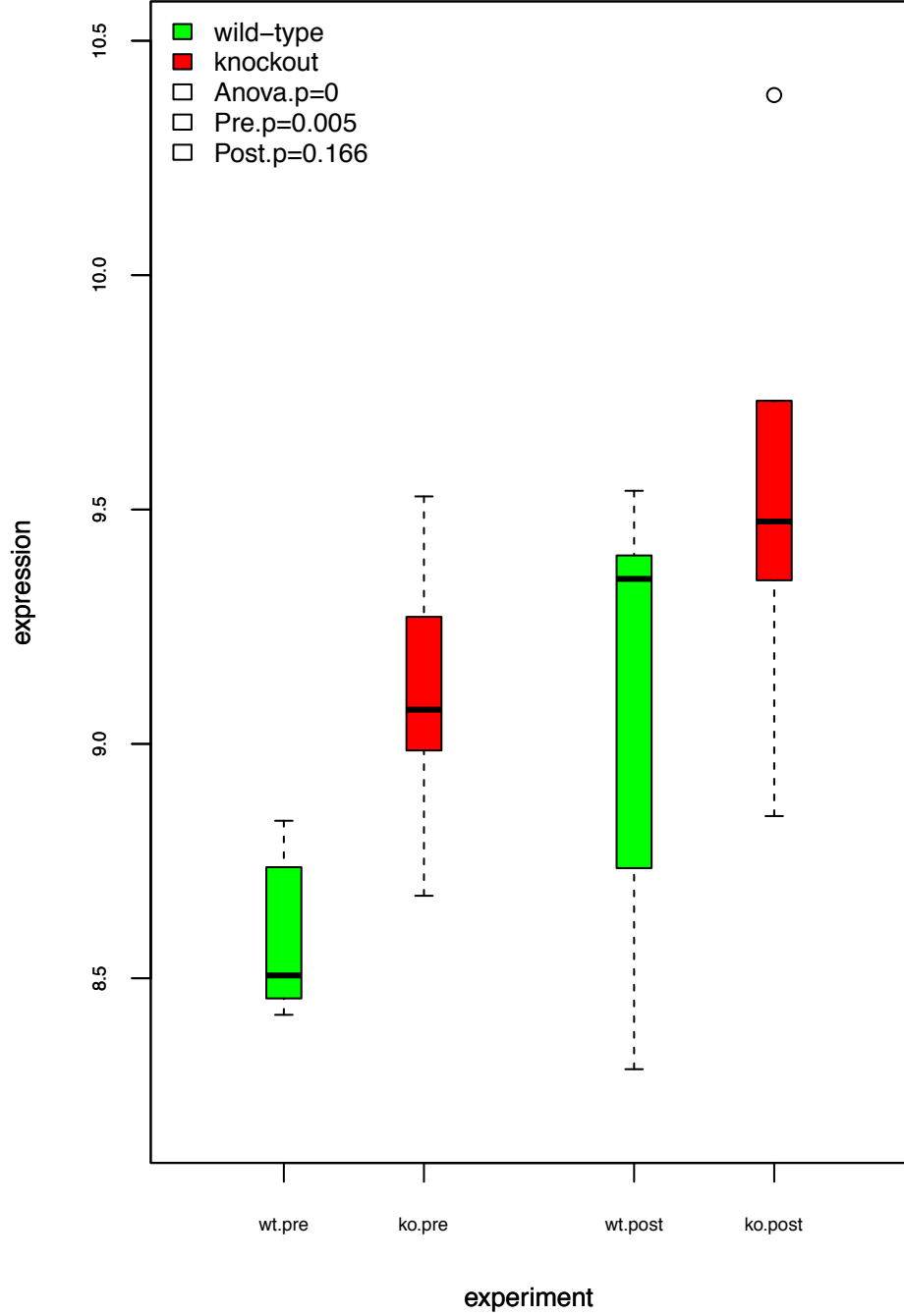
Postn



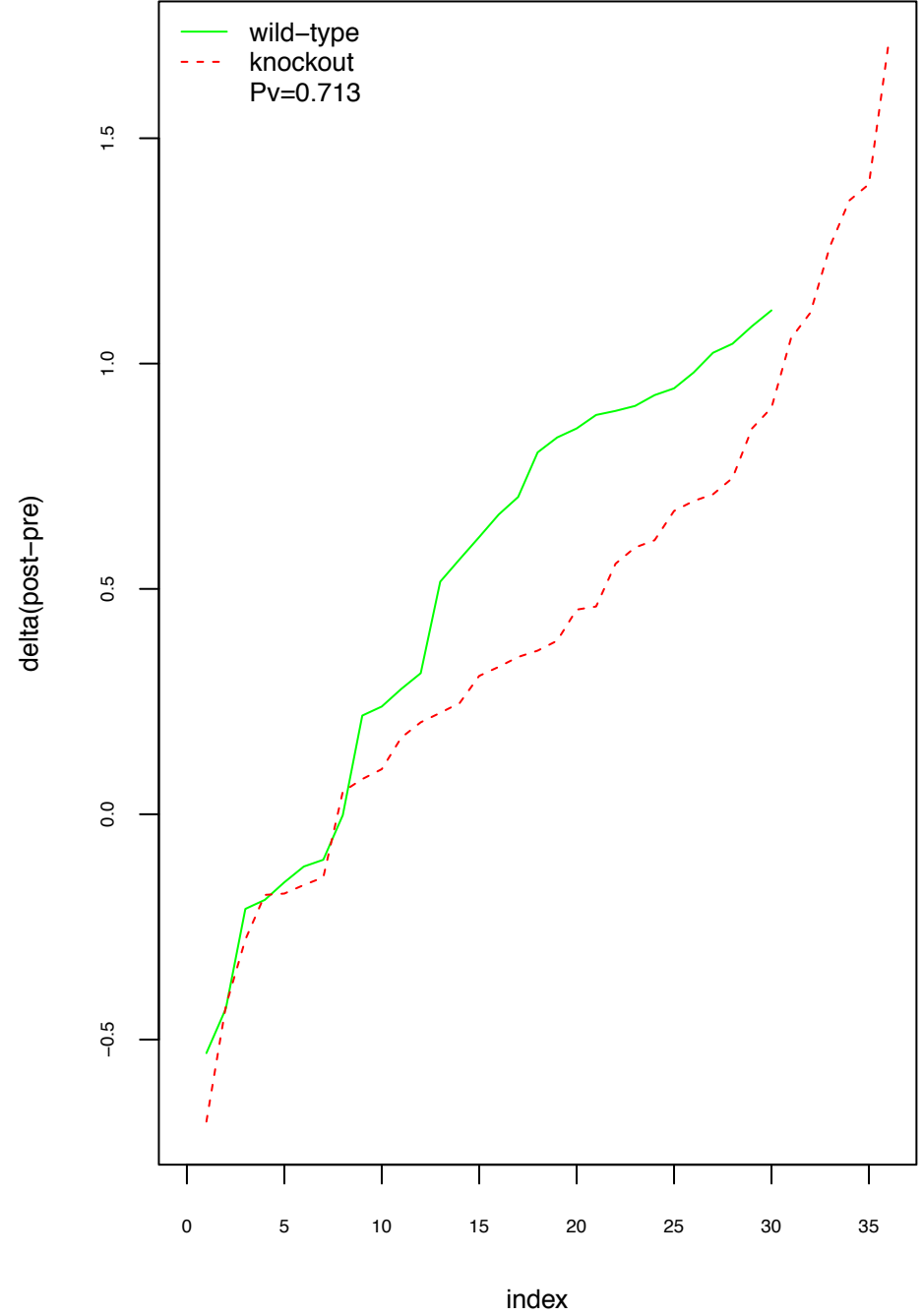
Postn



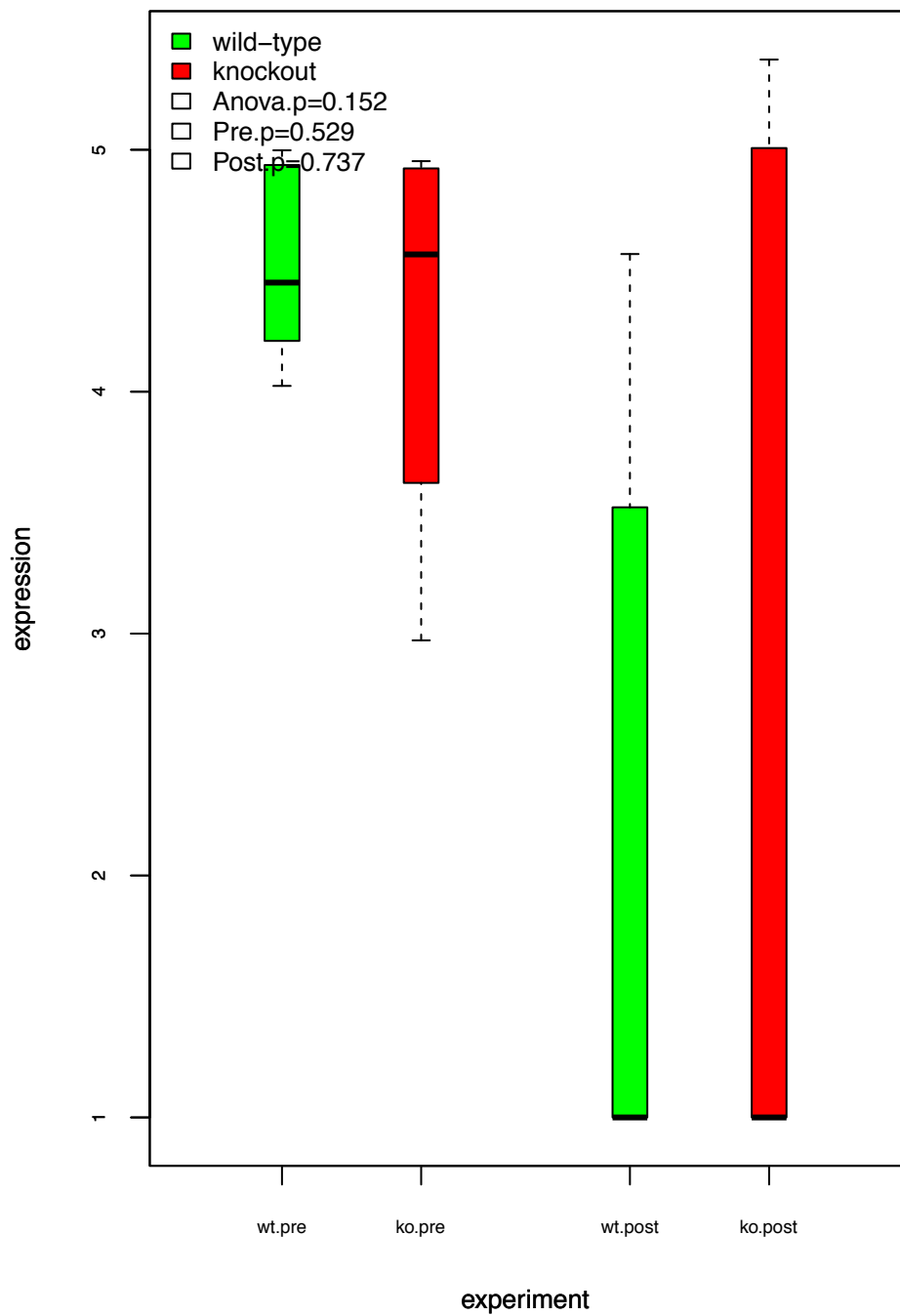
Runx2



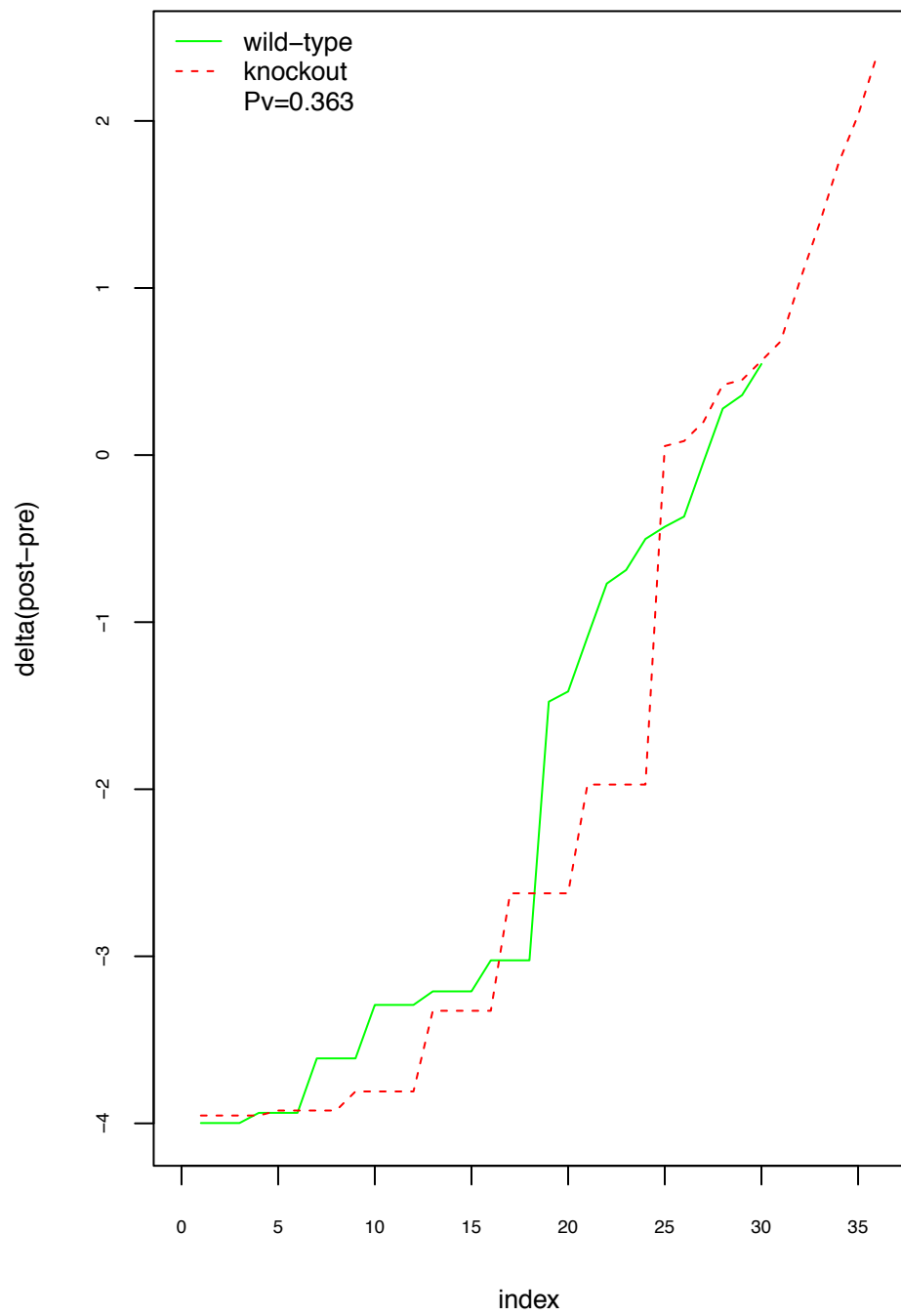
Runx2



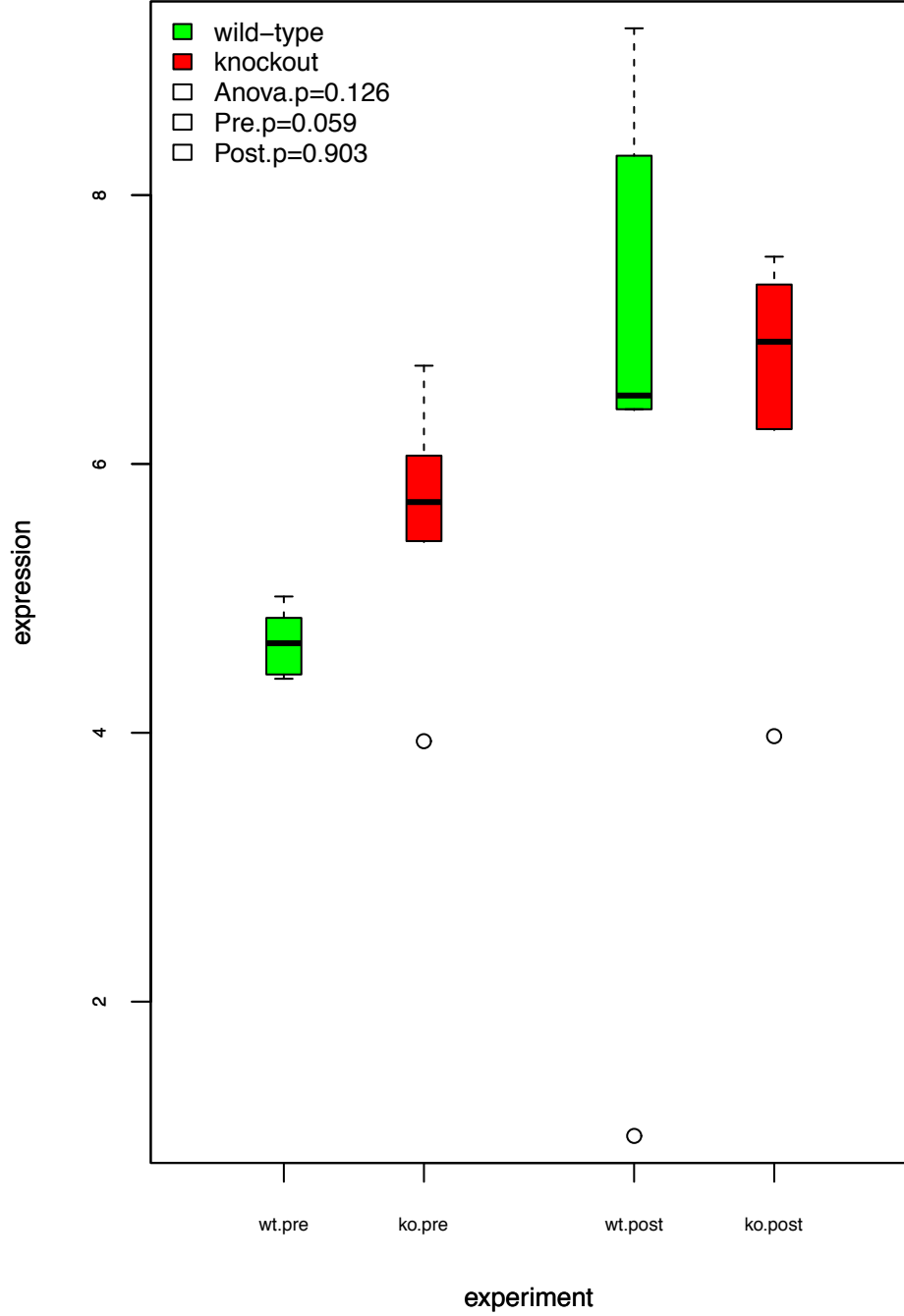
Rexo1



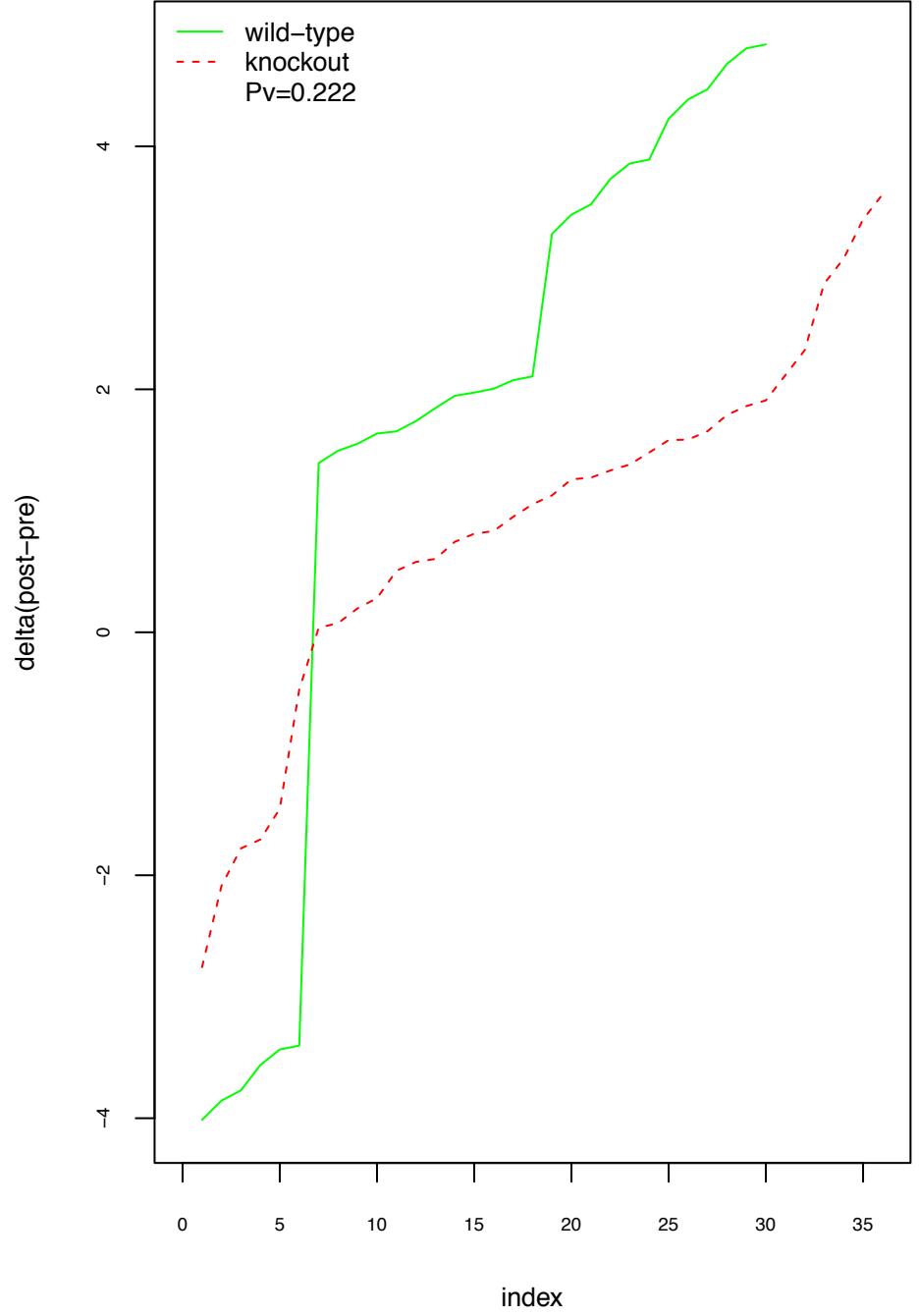
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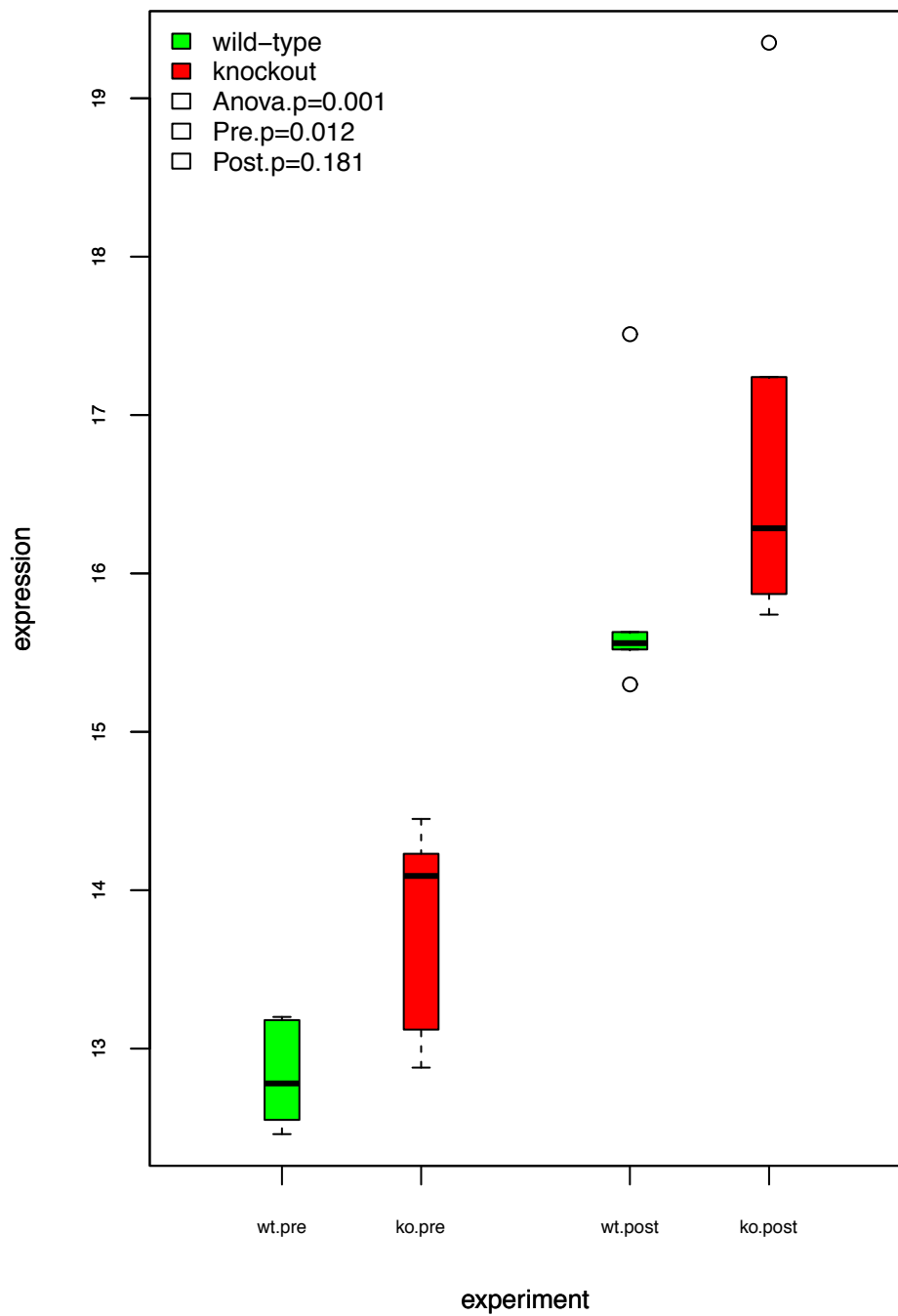
RANKL



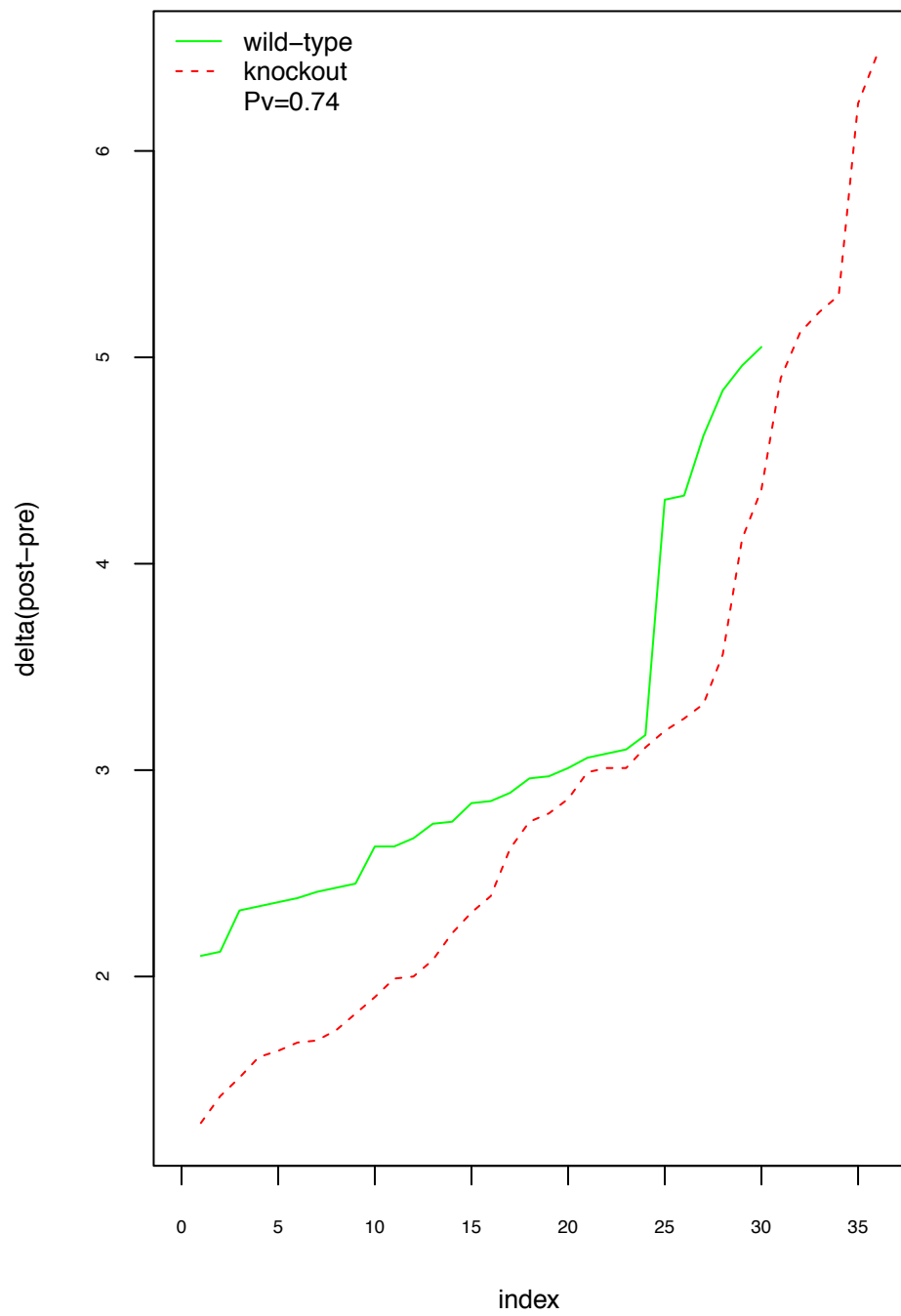
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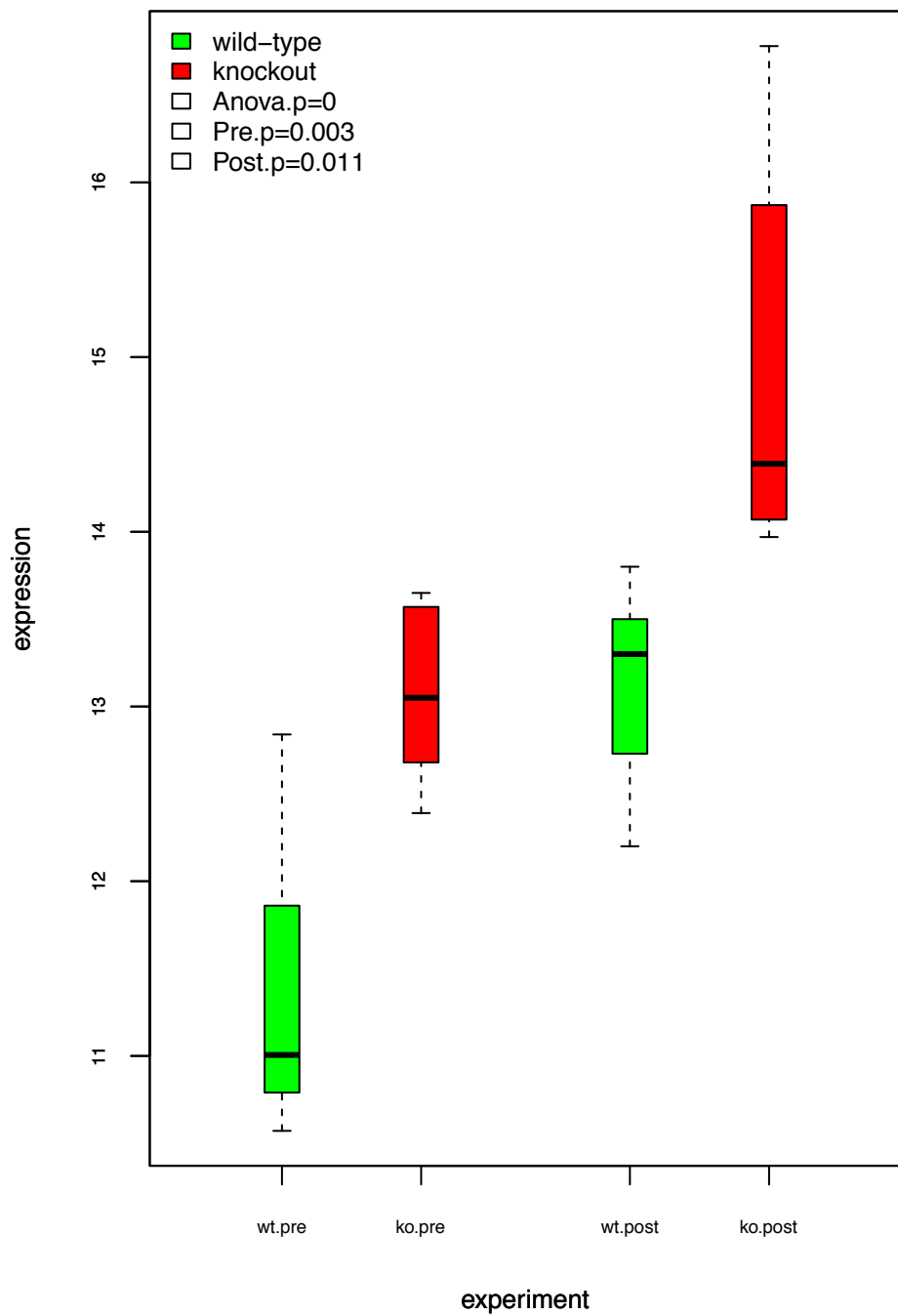
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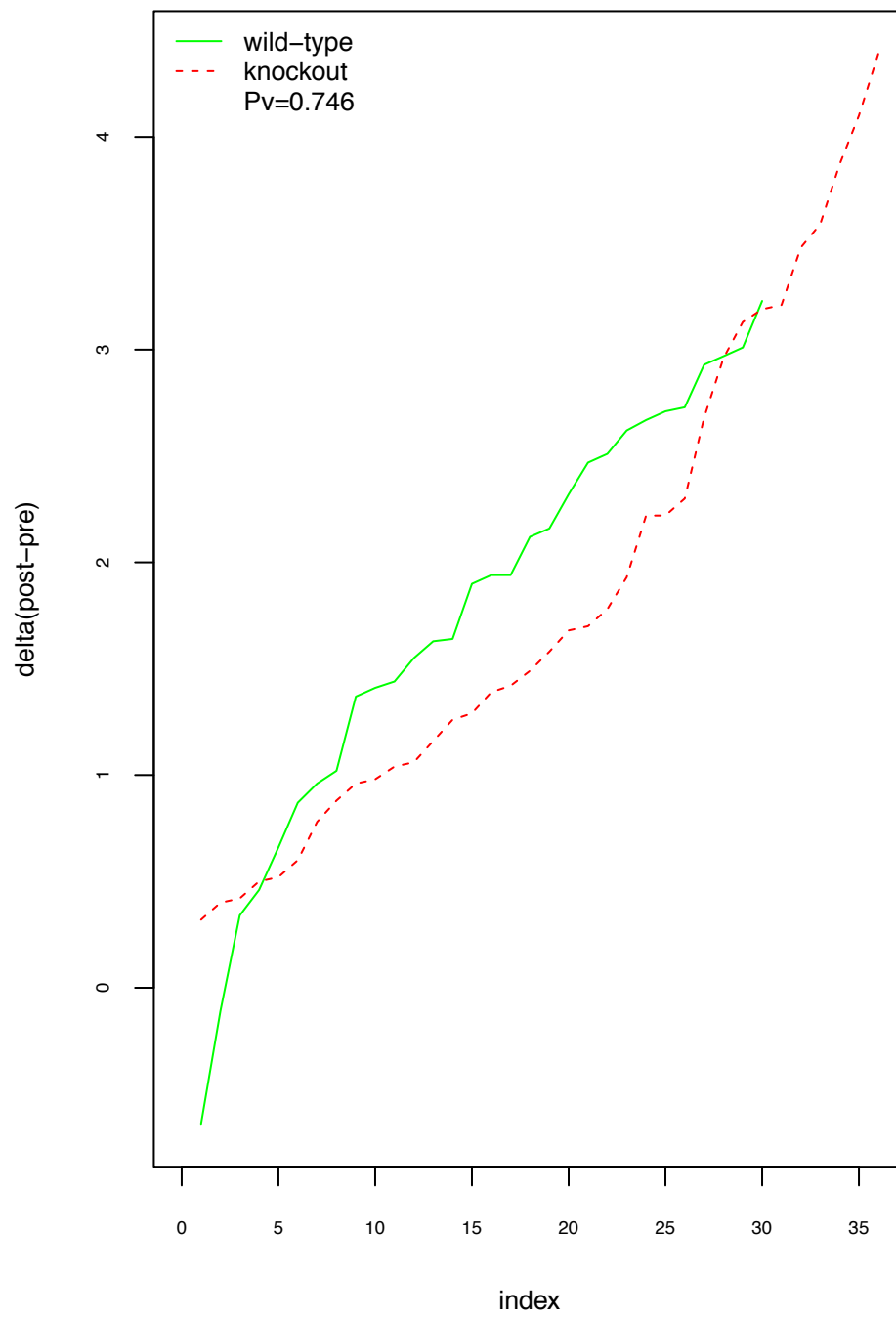
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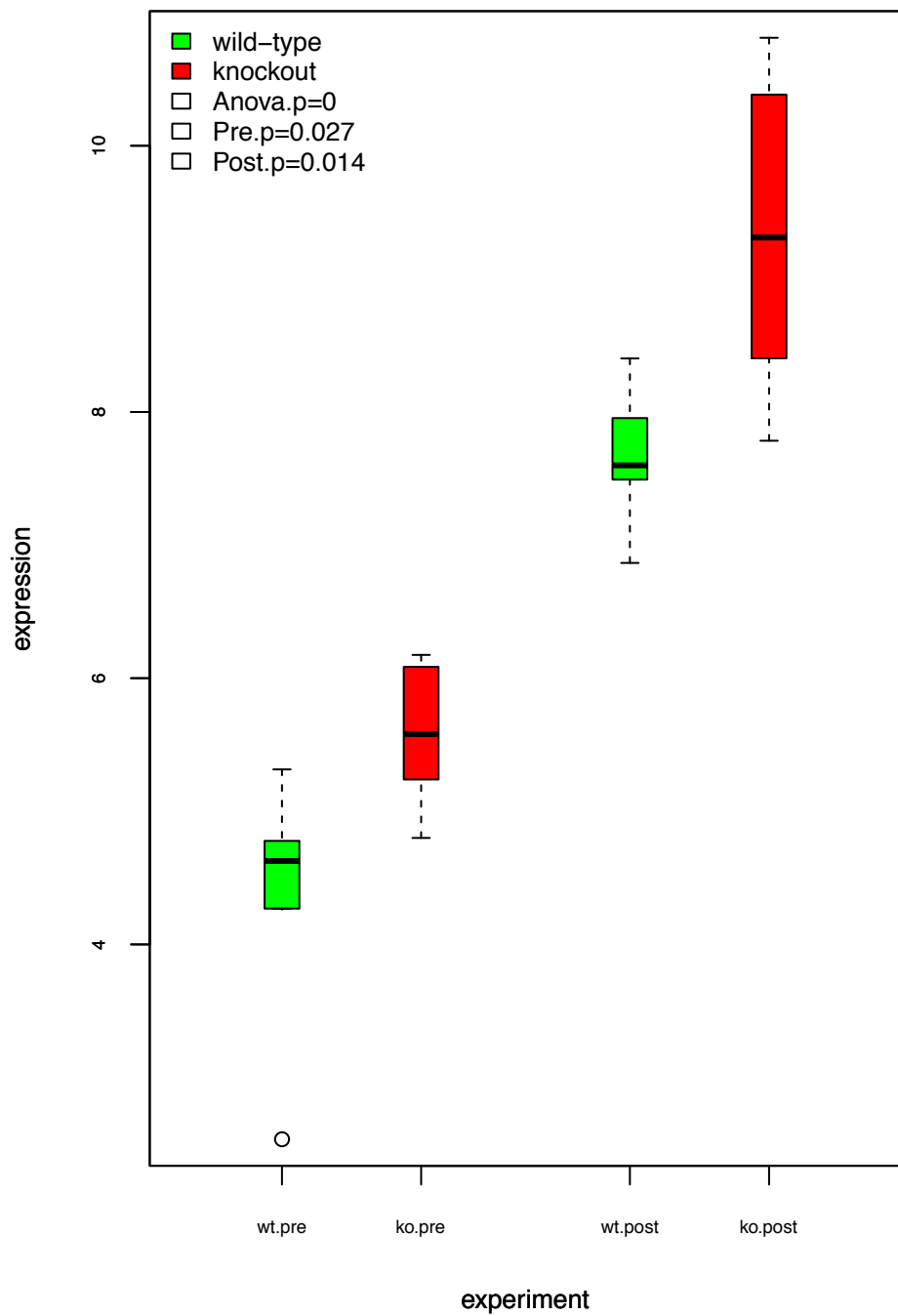
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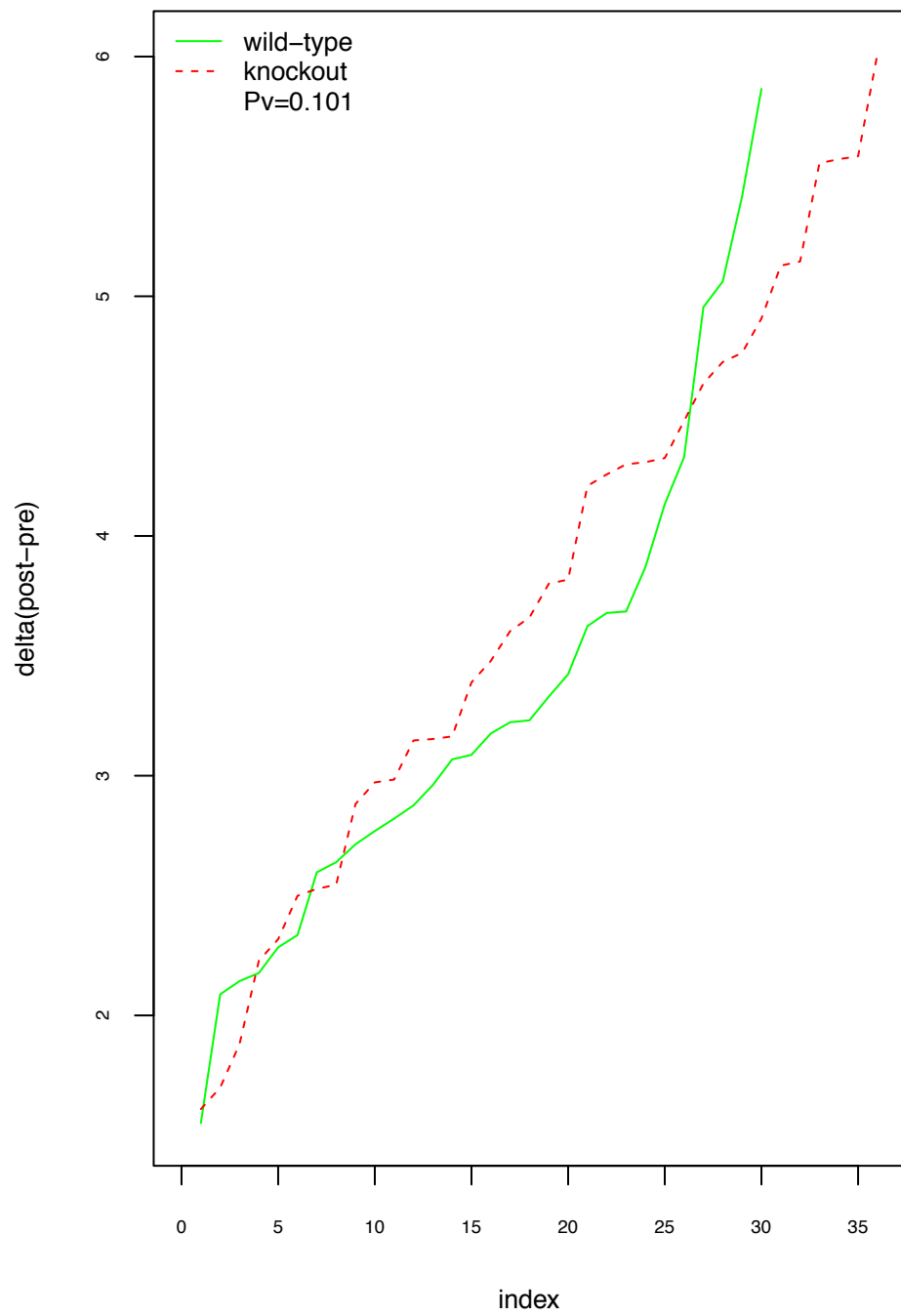
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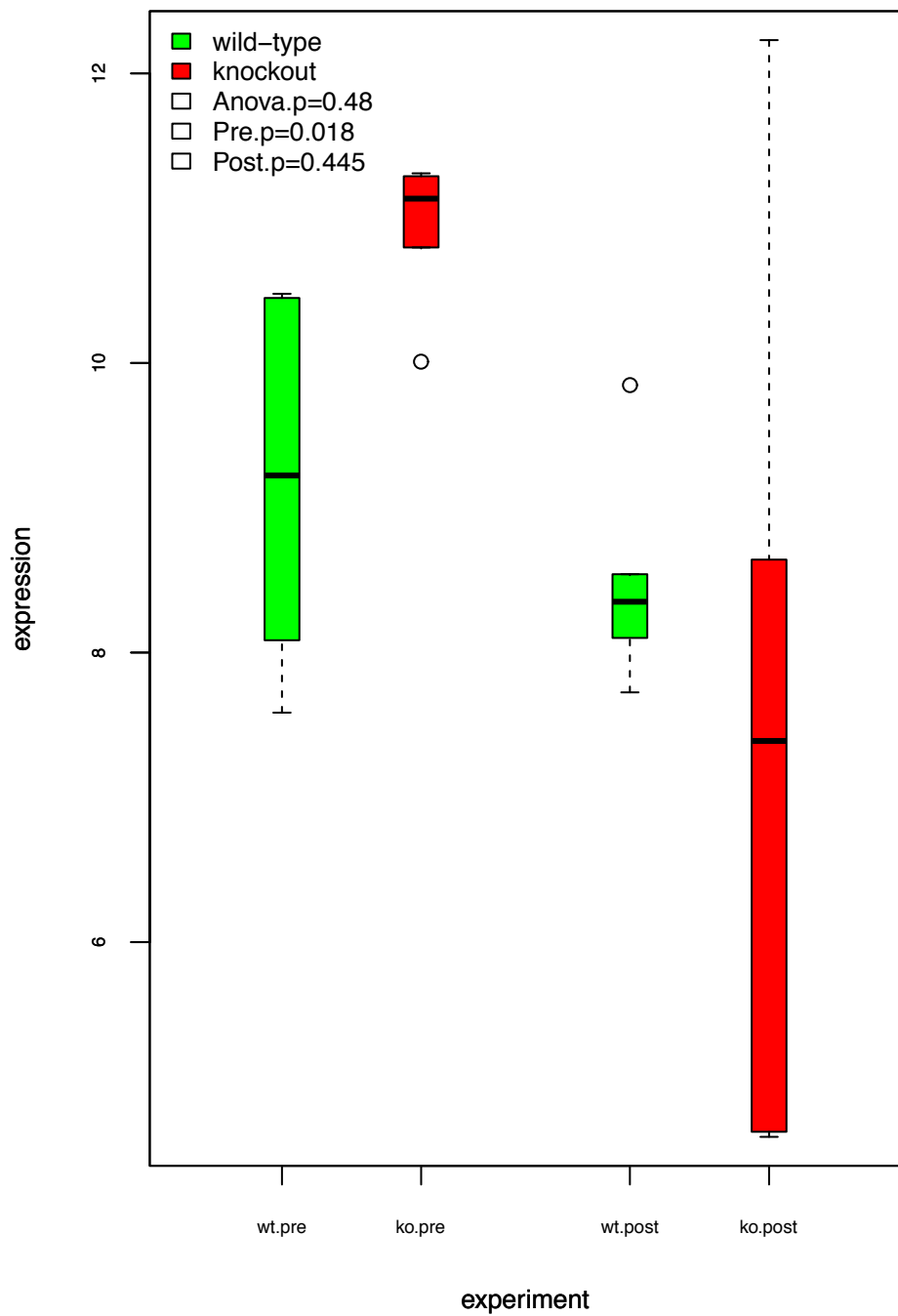
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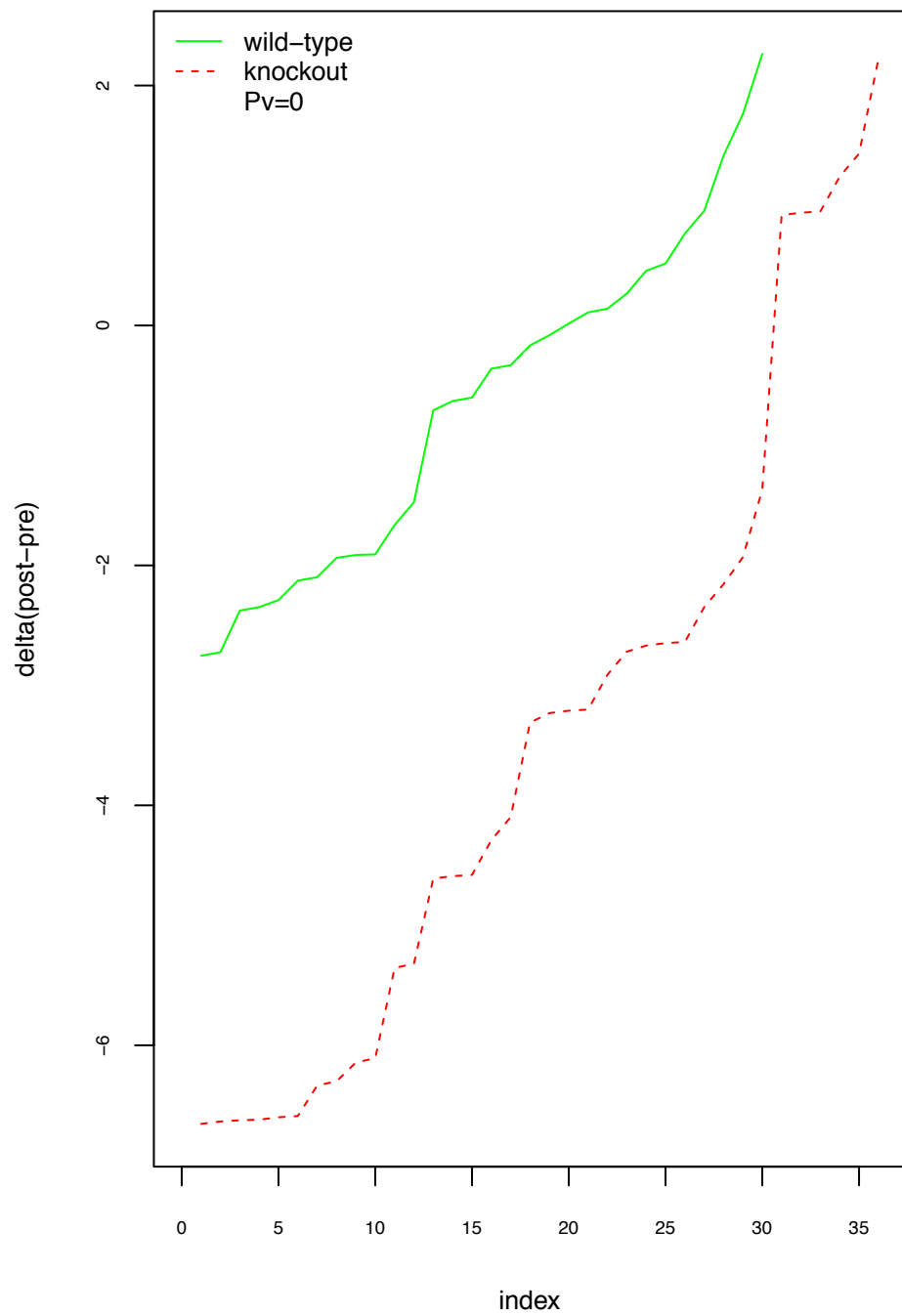
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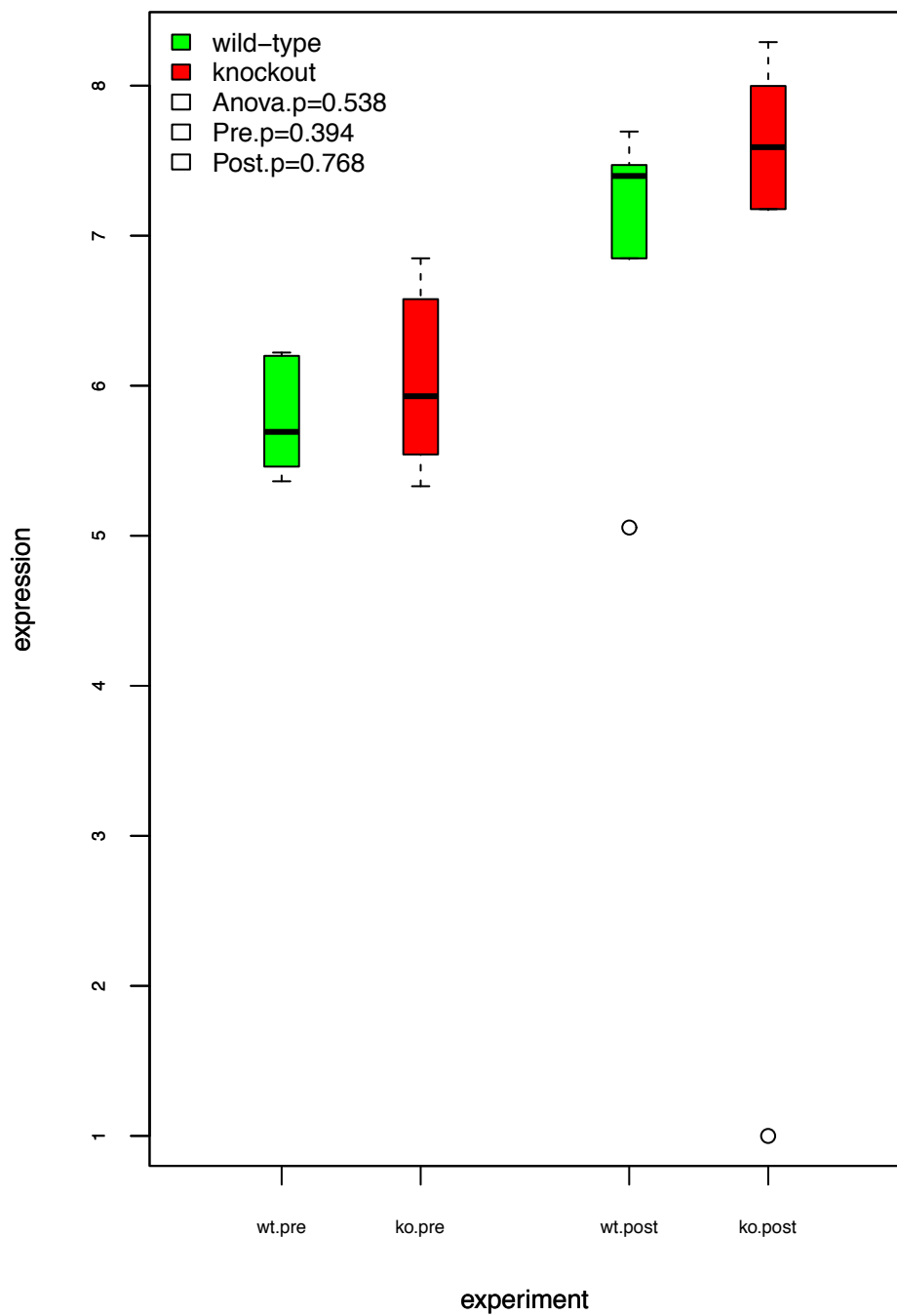
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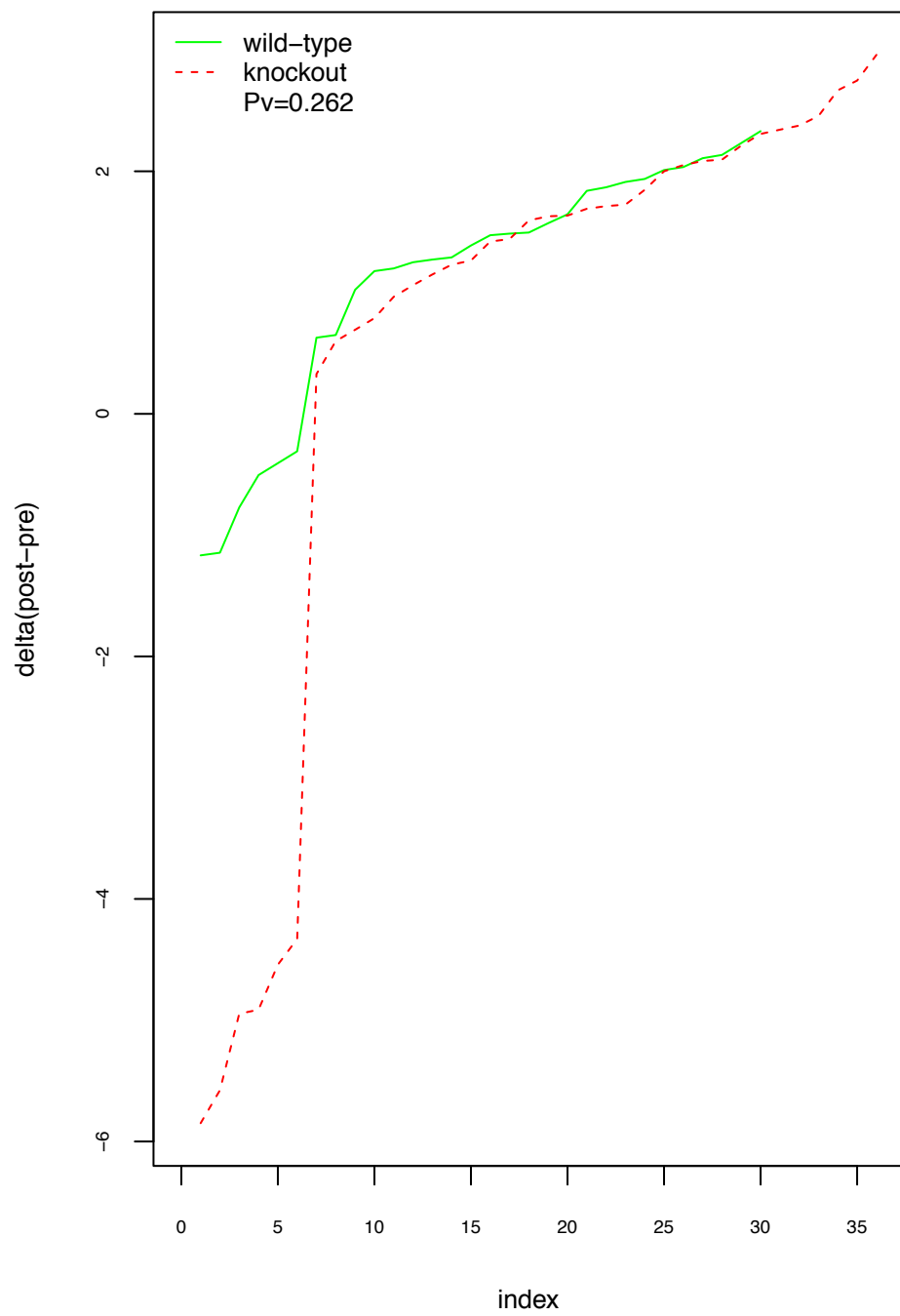
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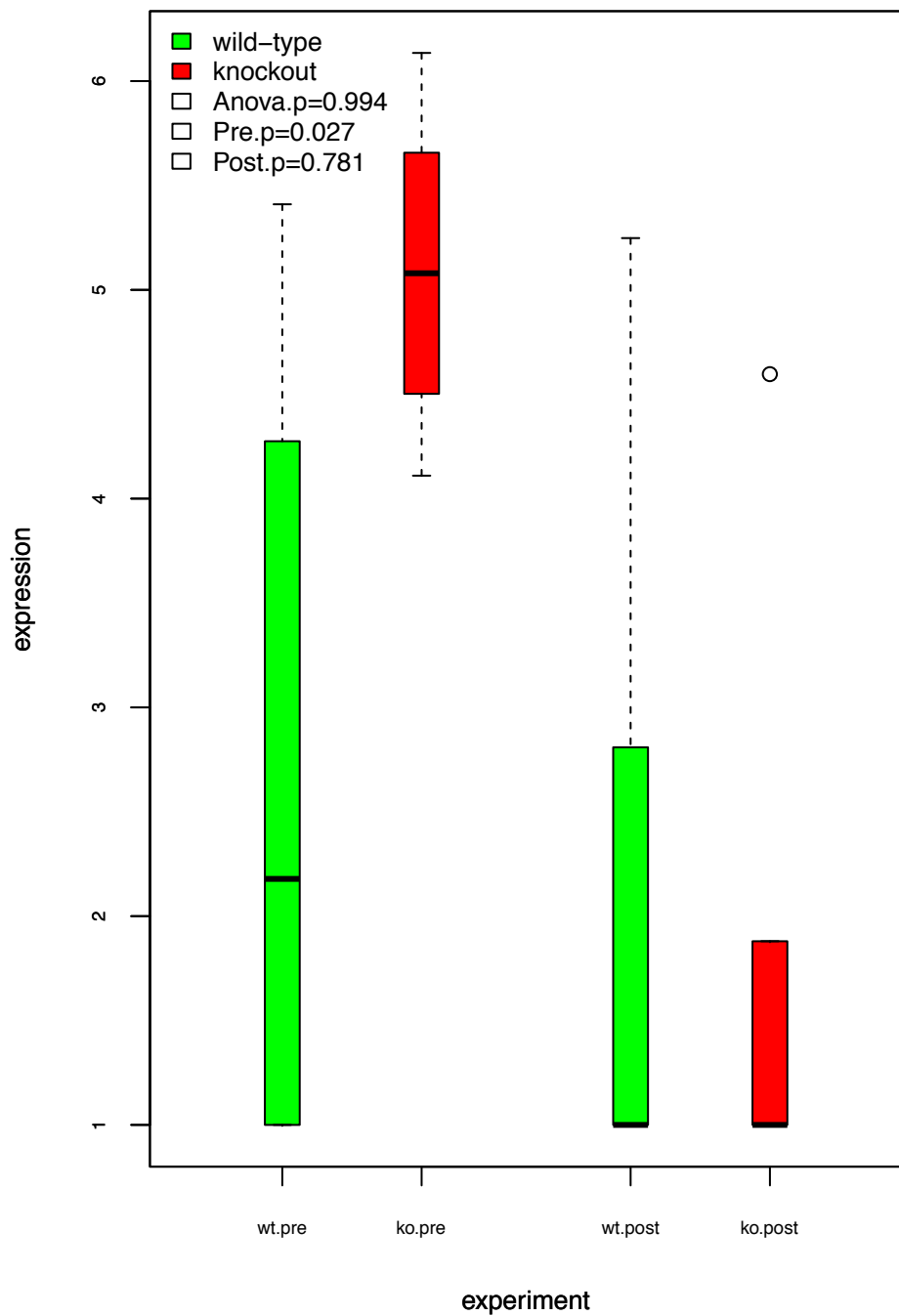
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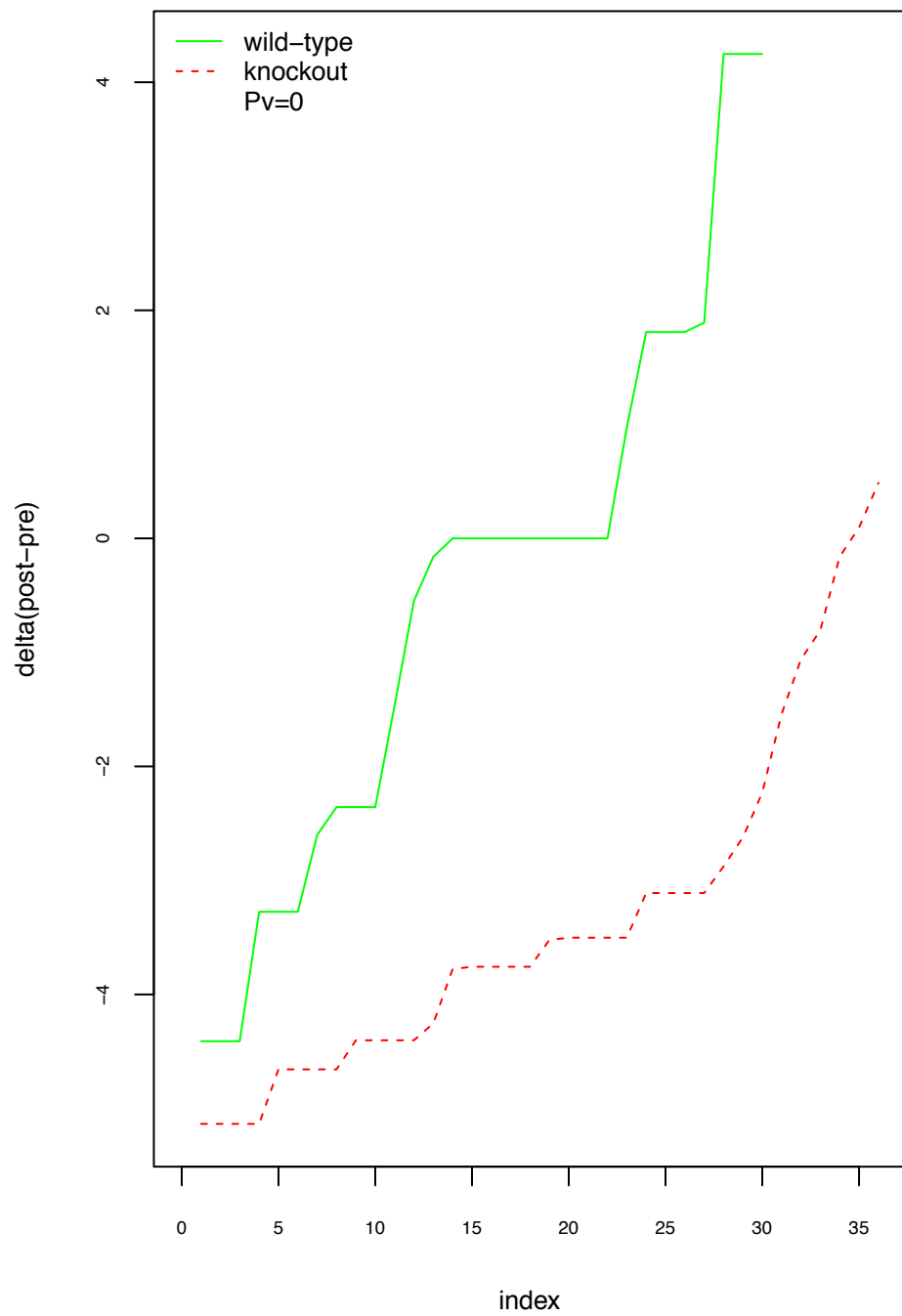
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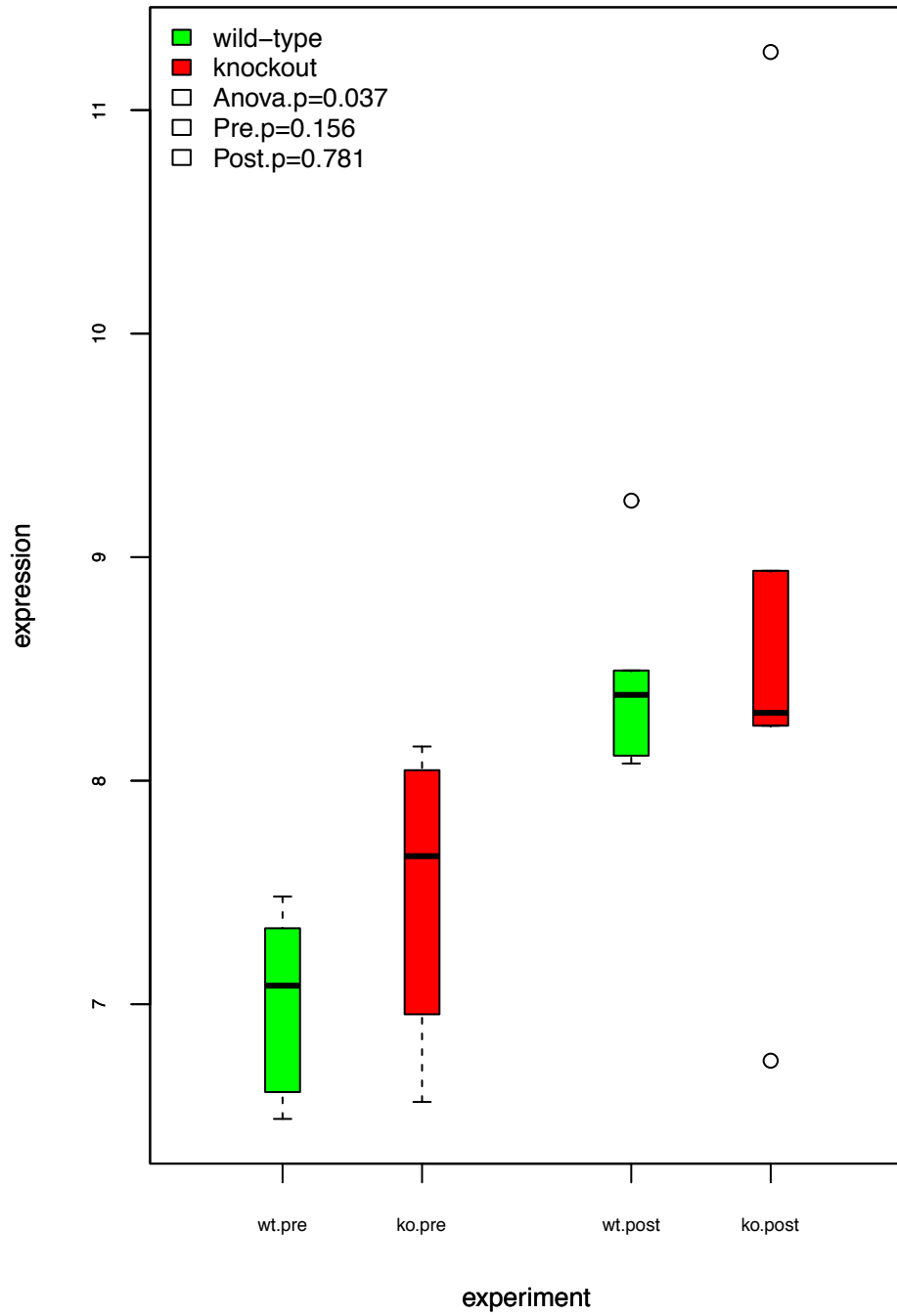
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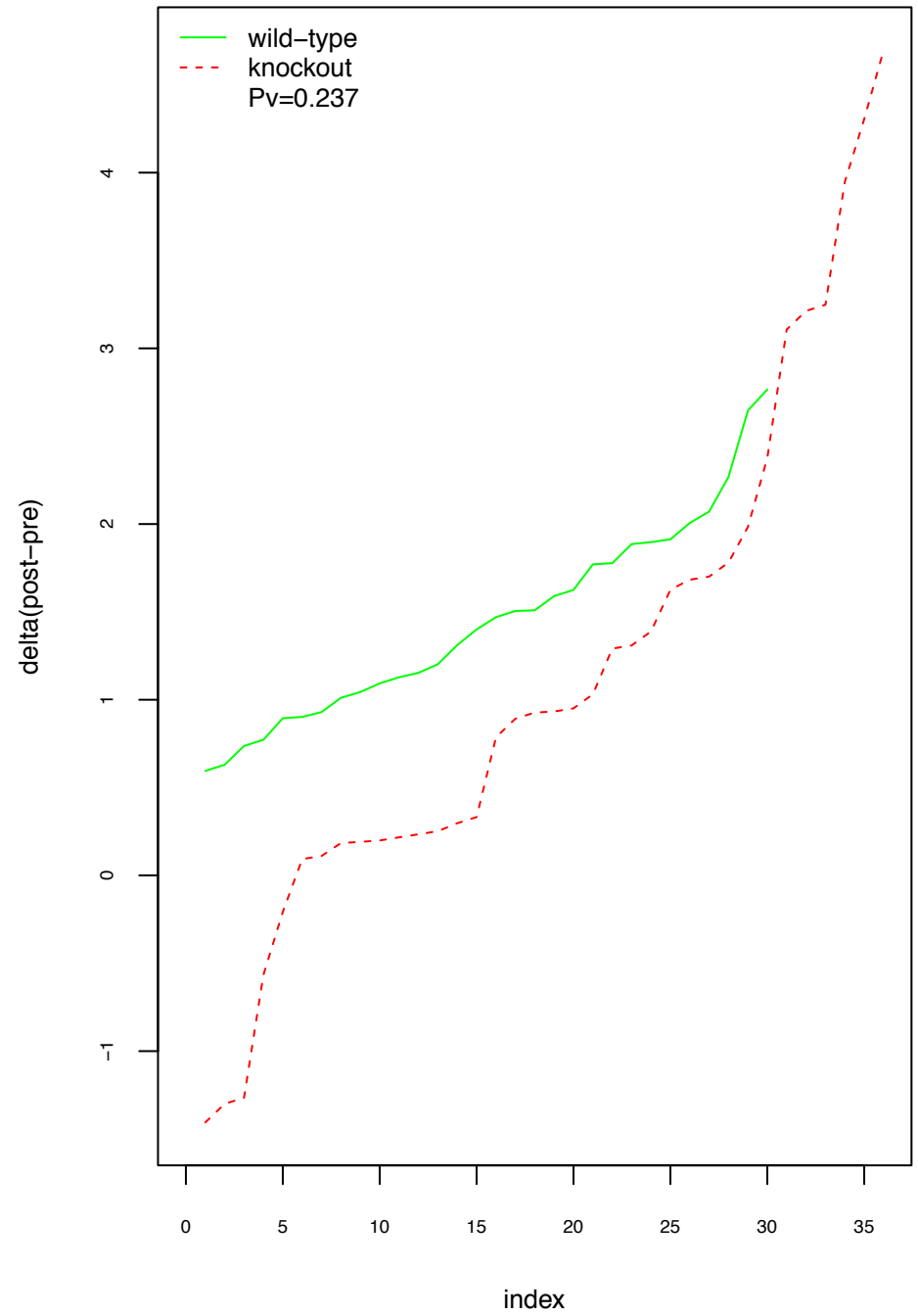
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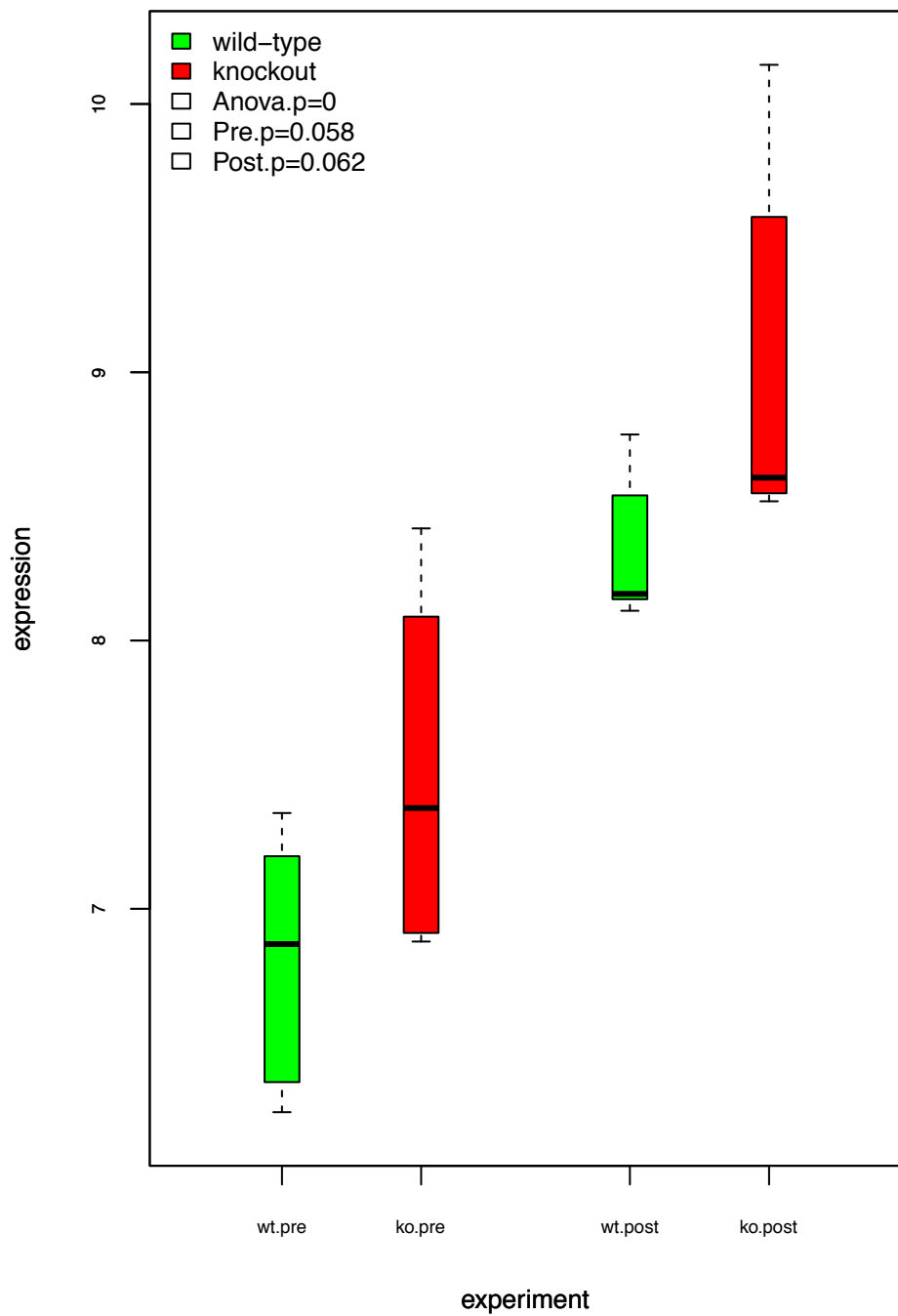
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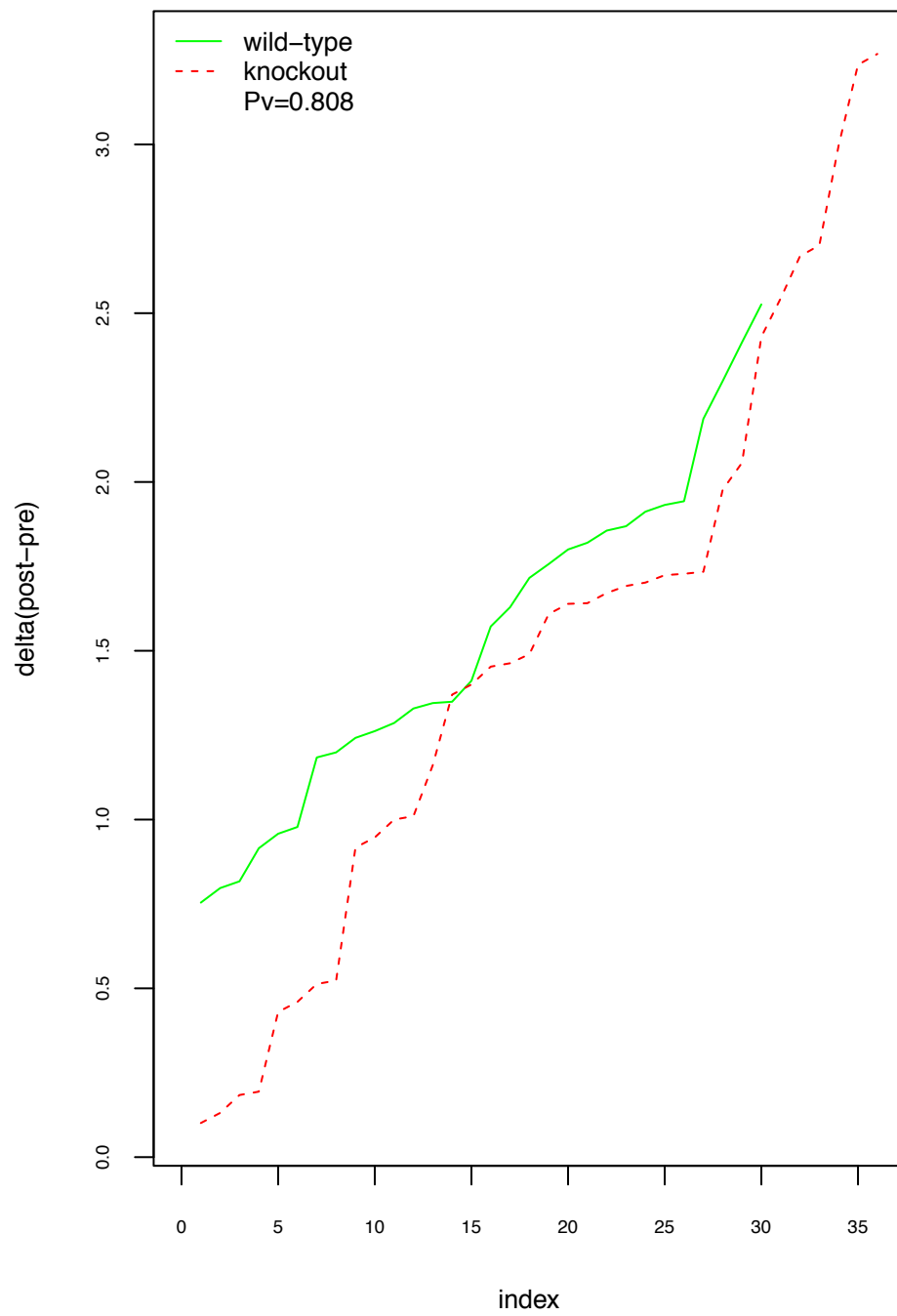
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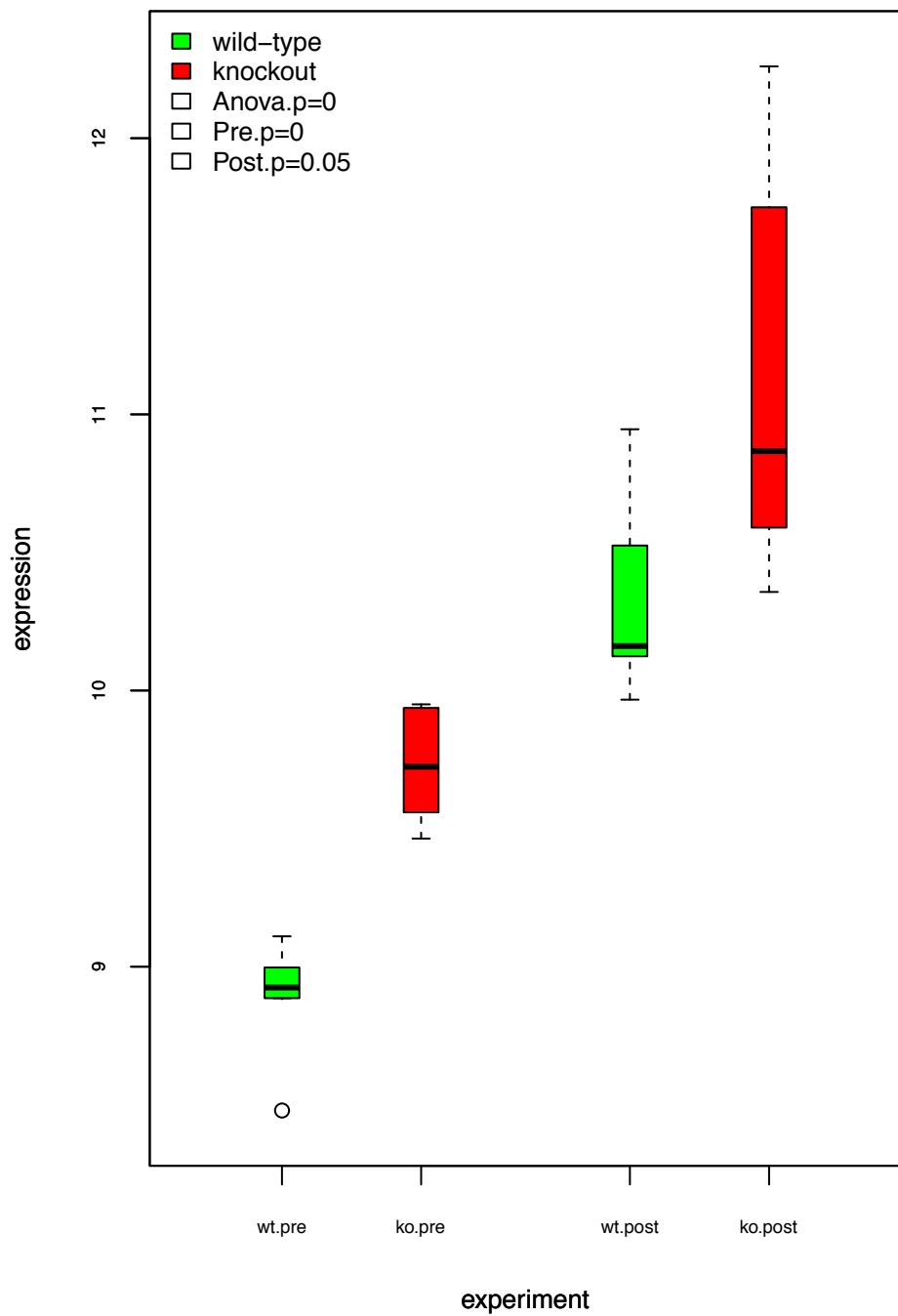
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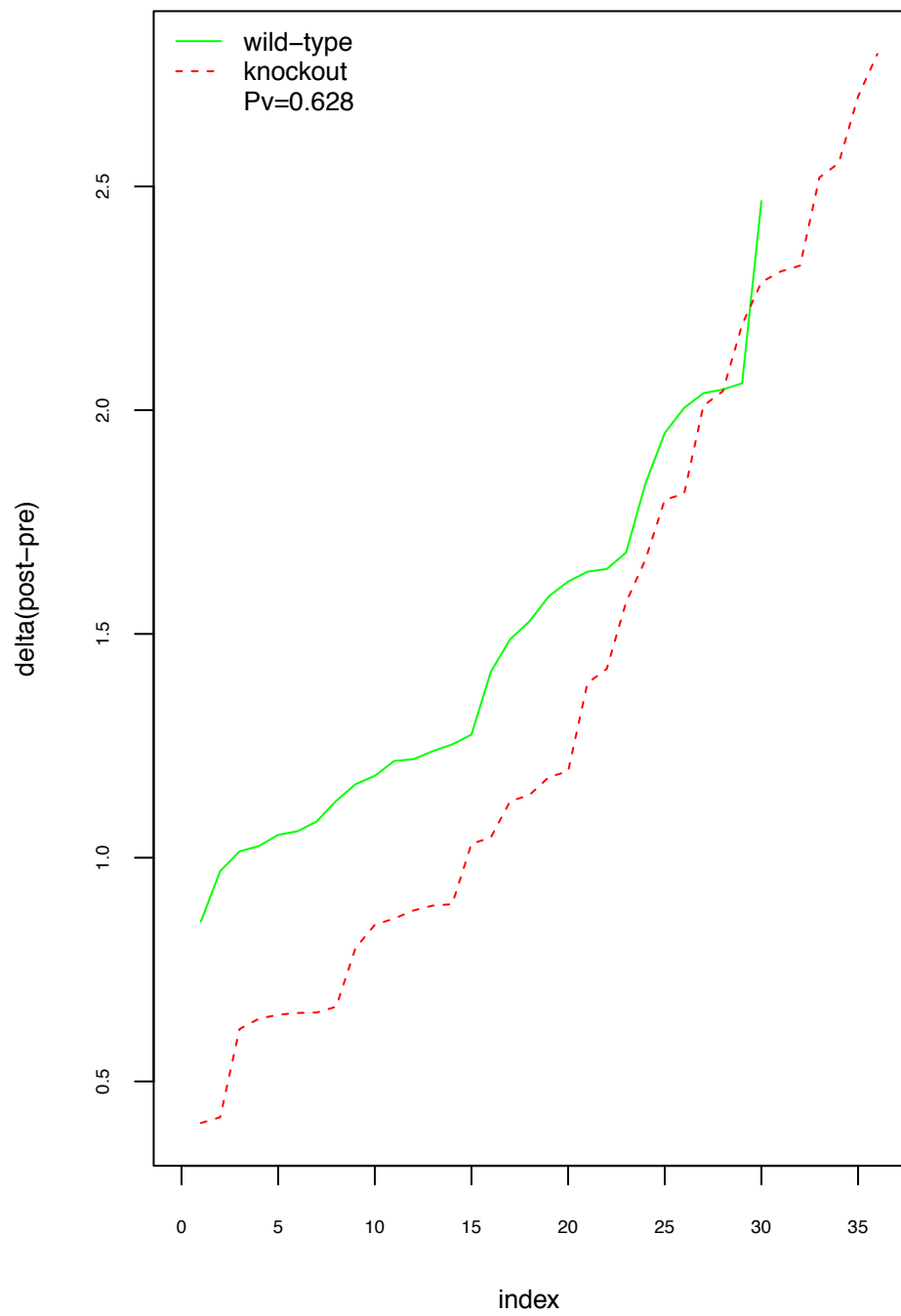
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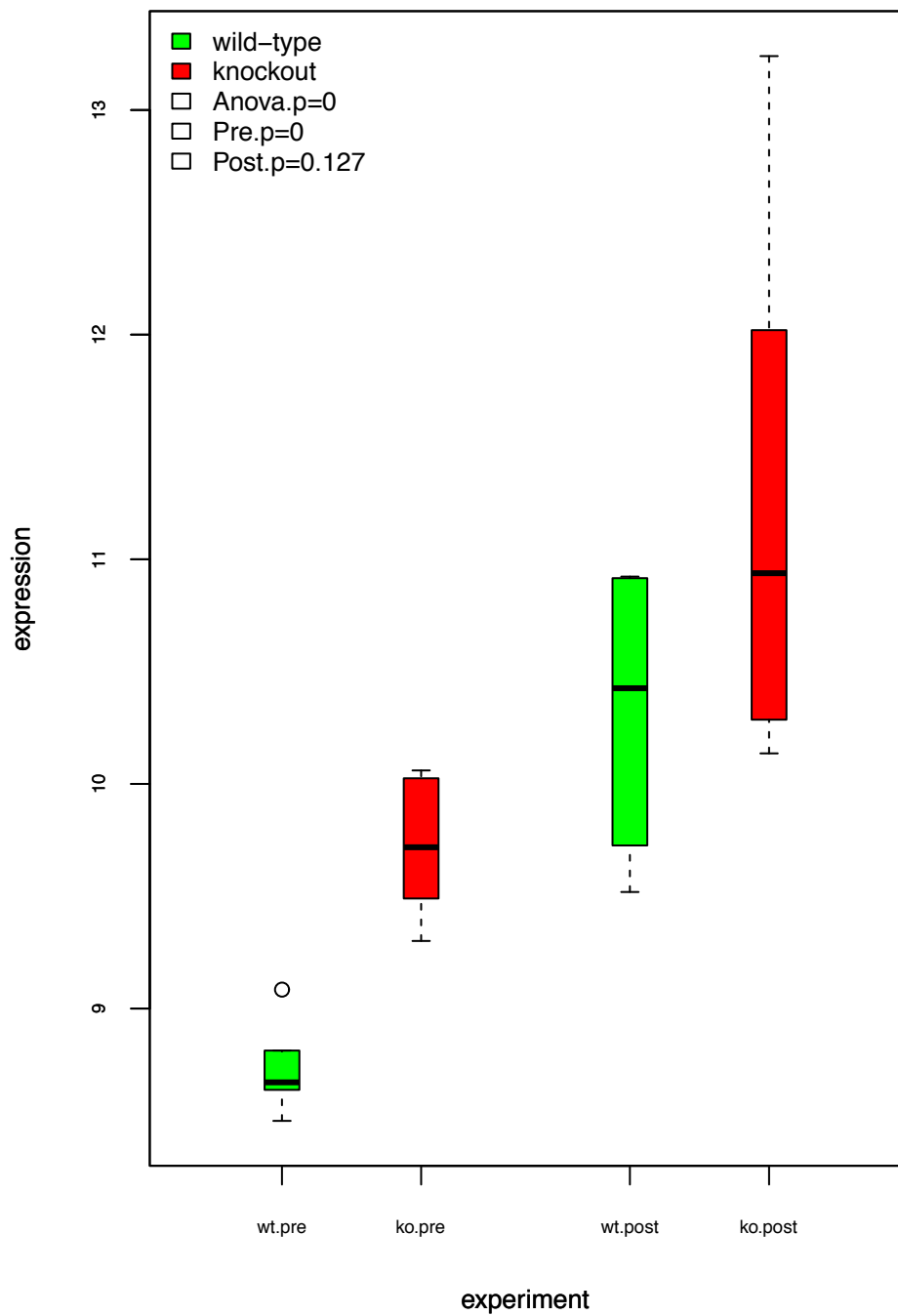
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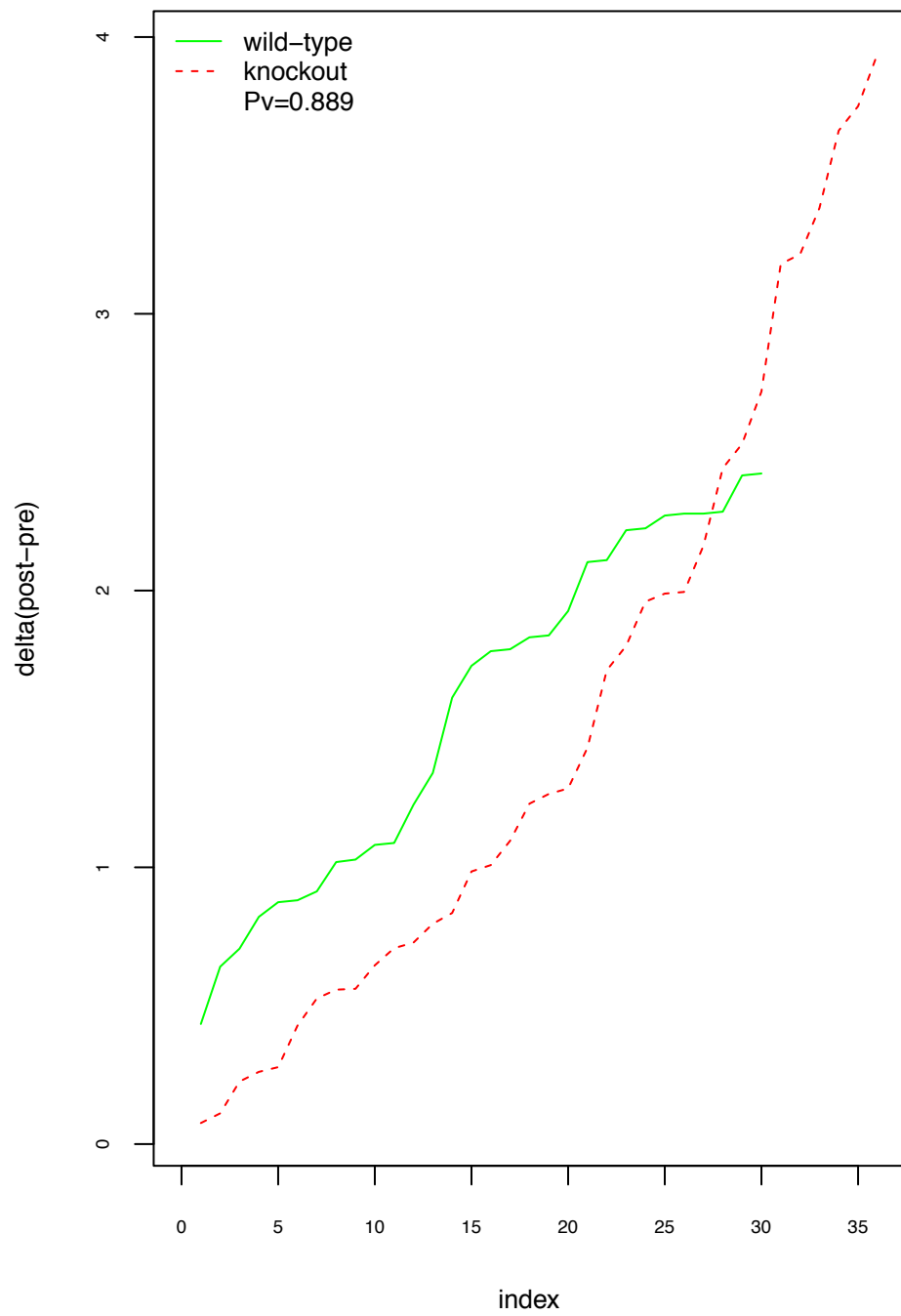
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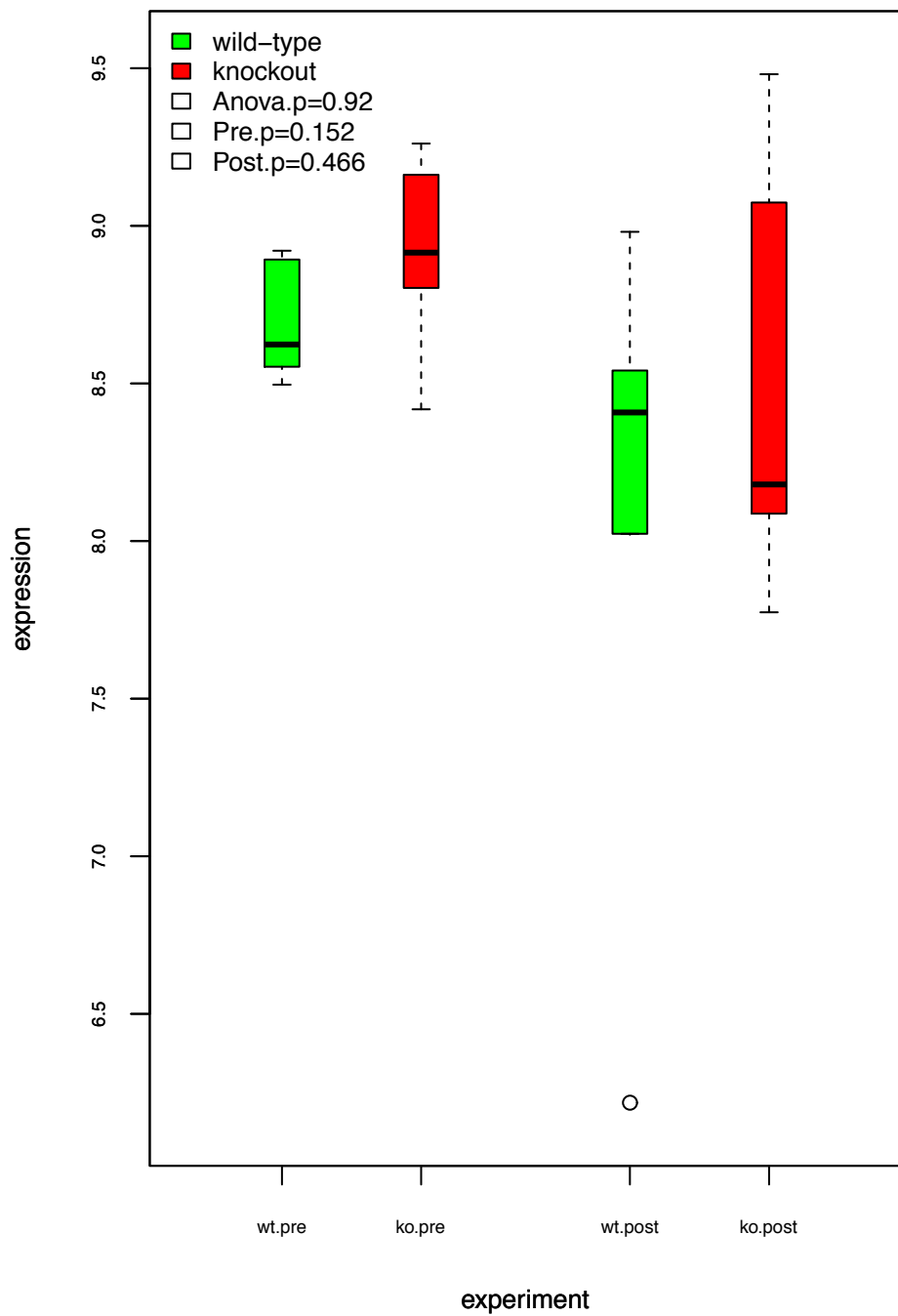
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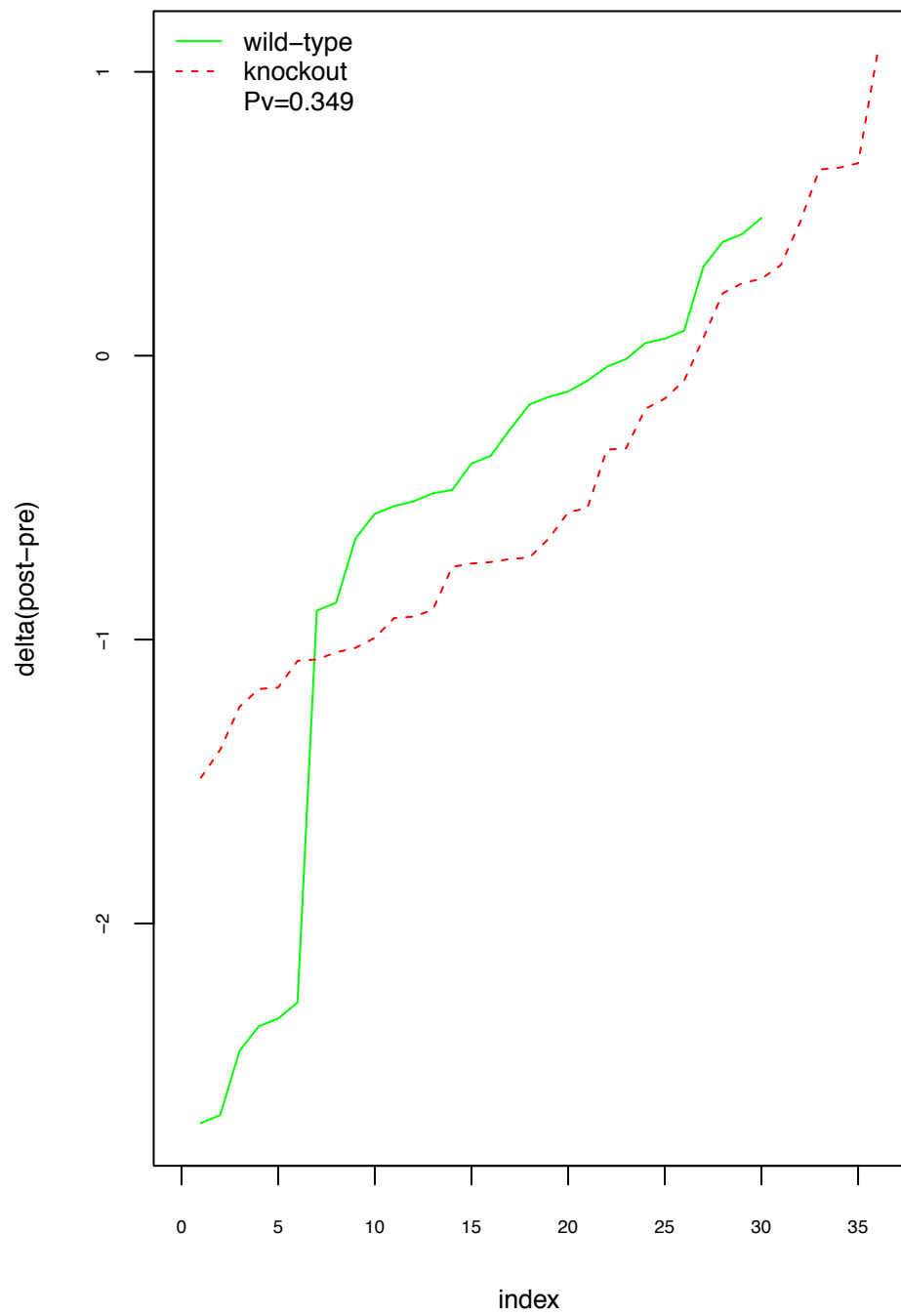
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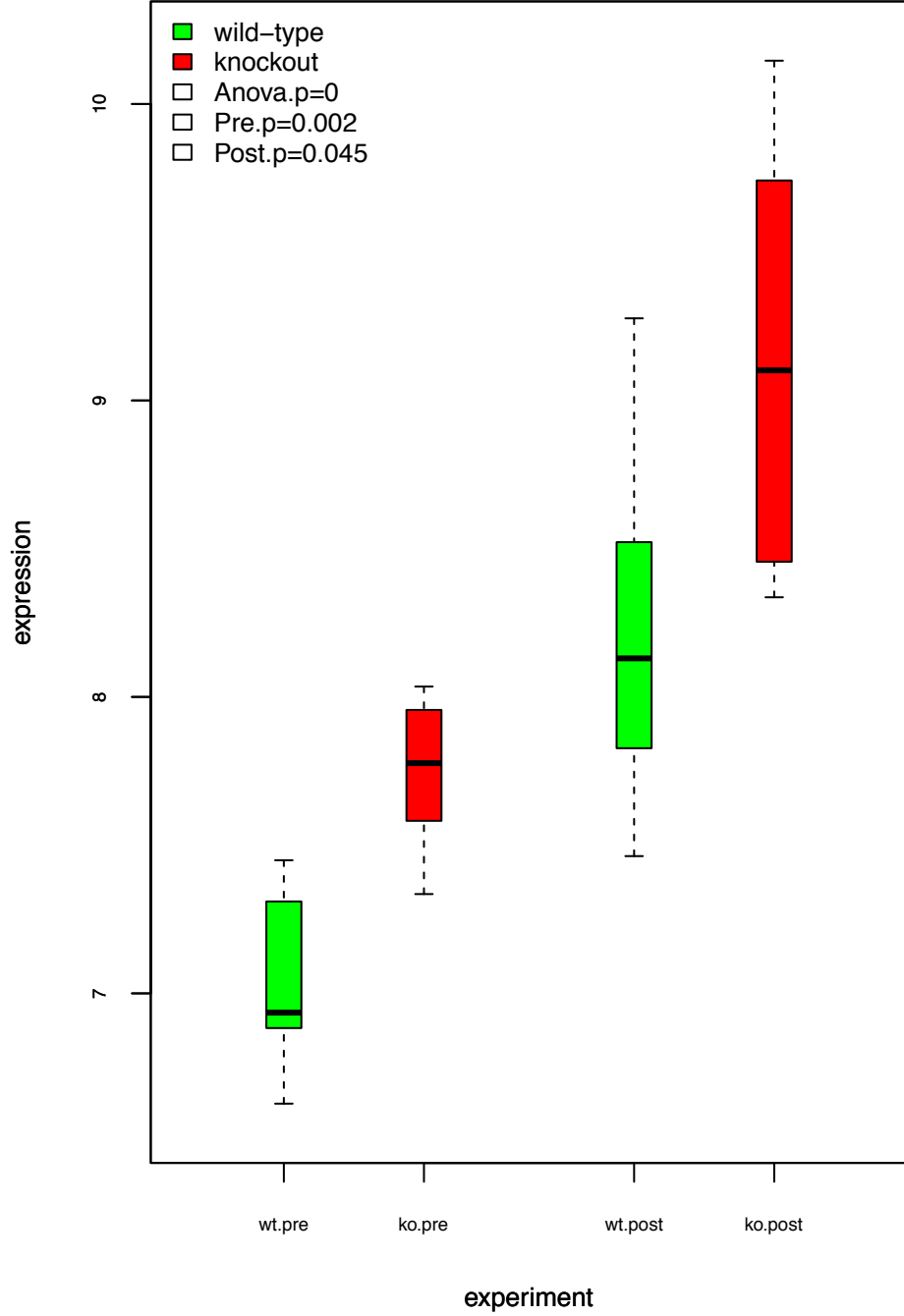
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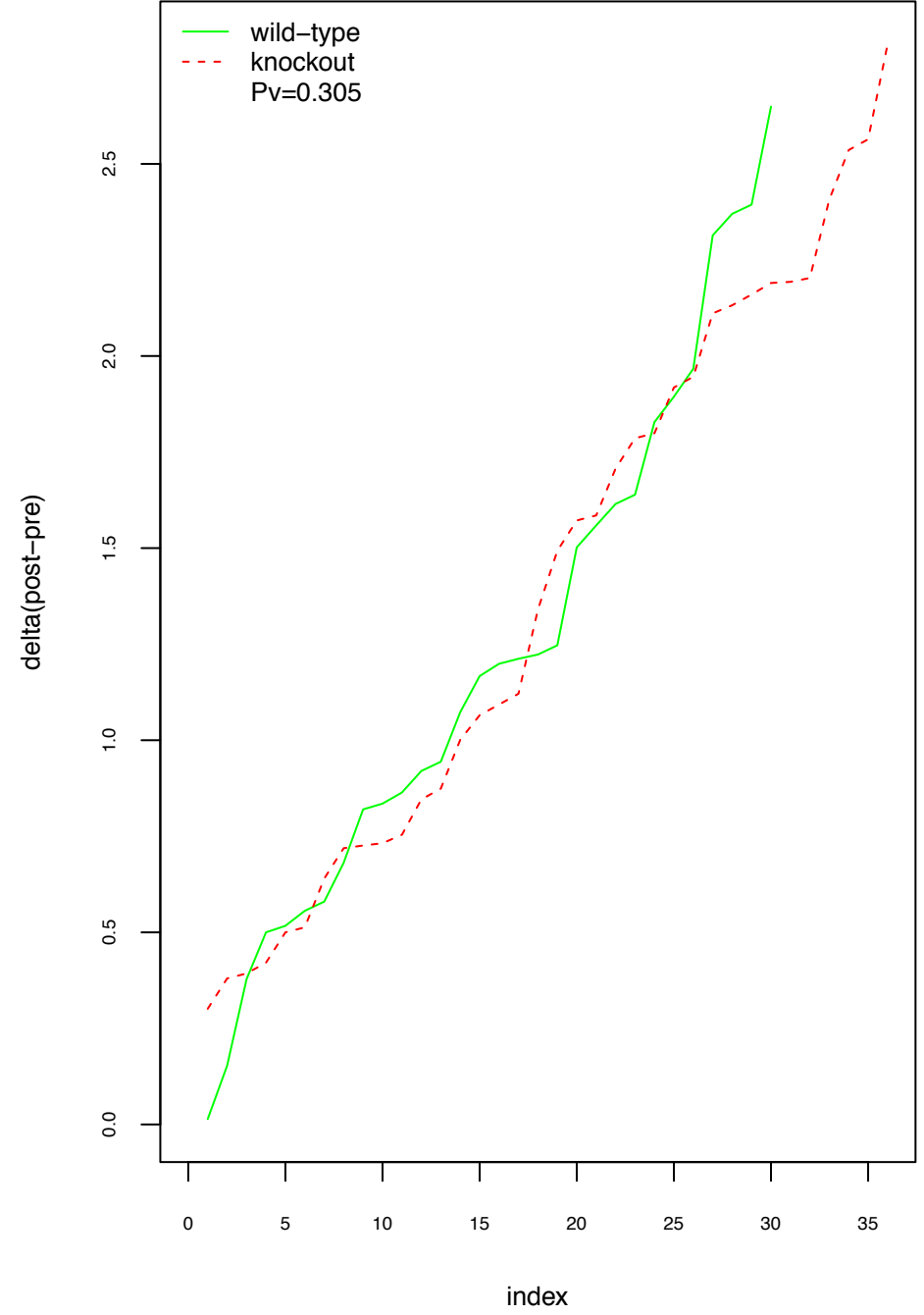
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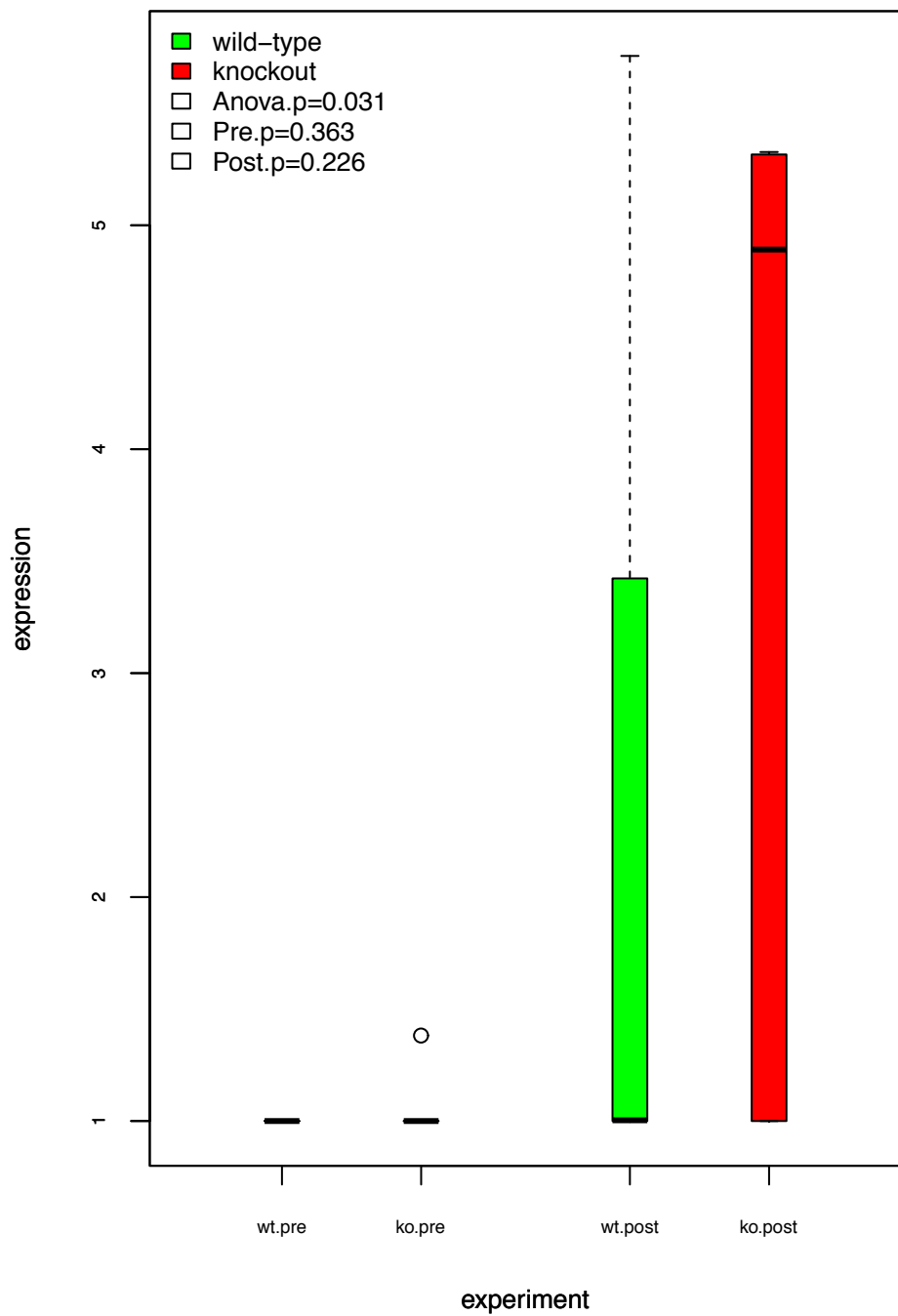
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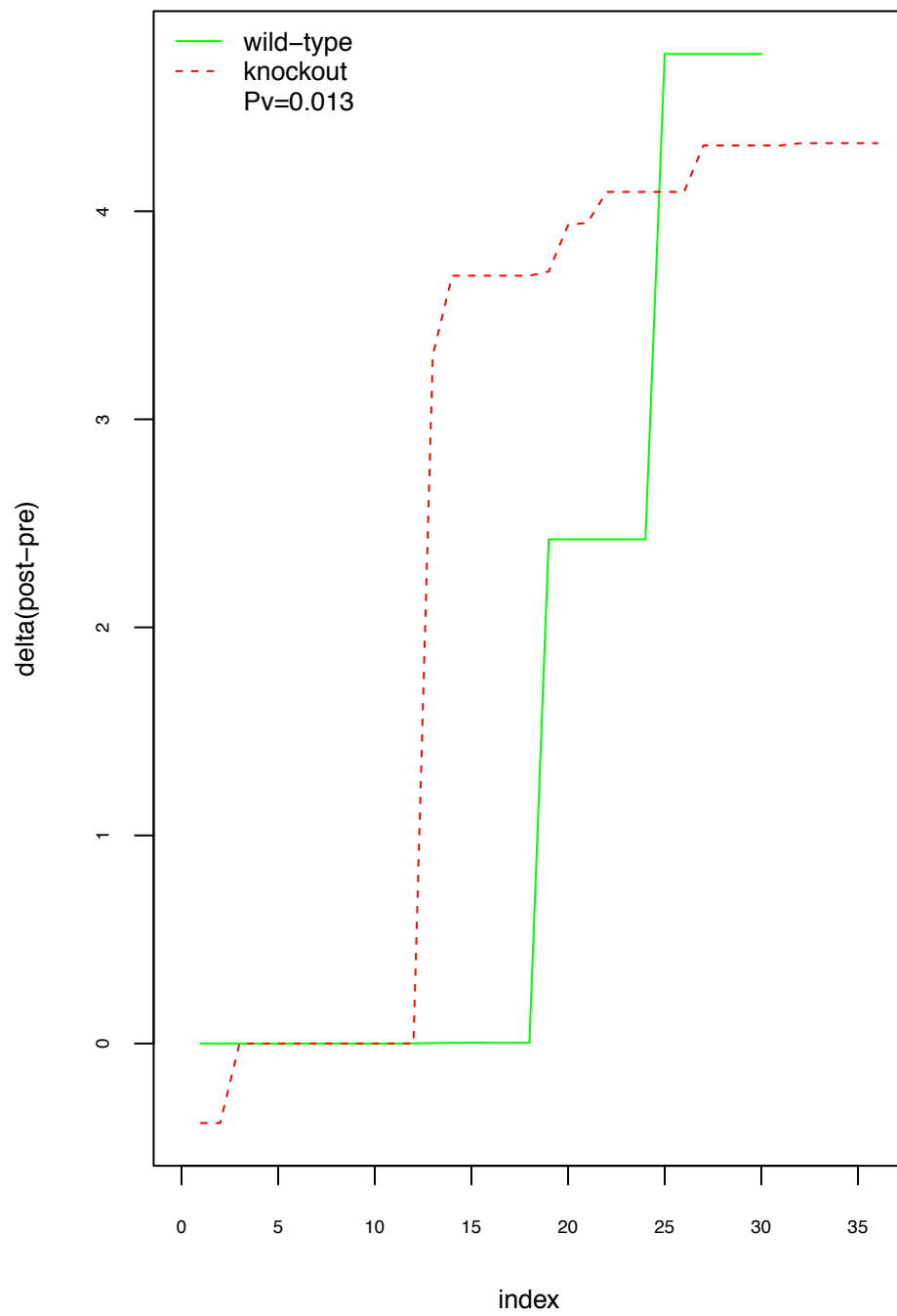
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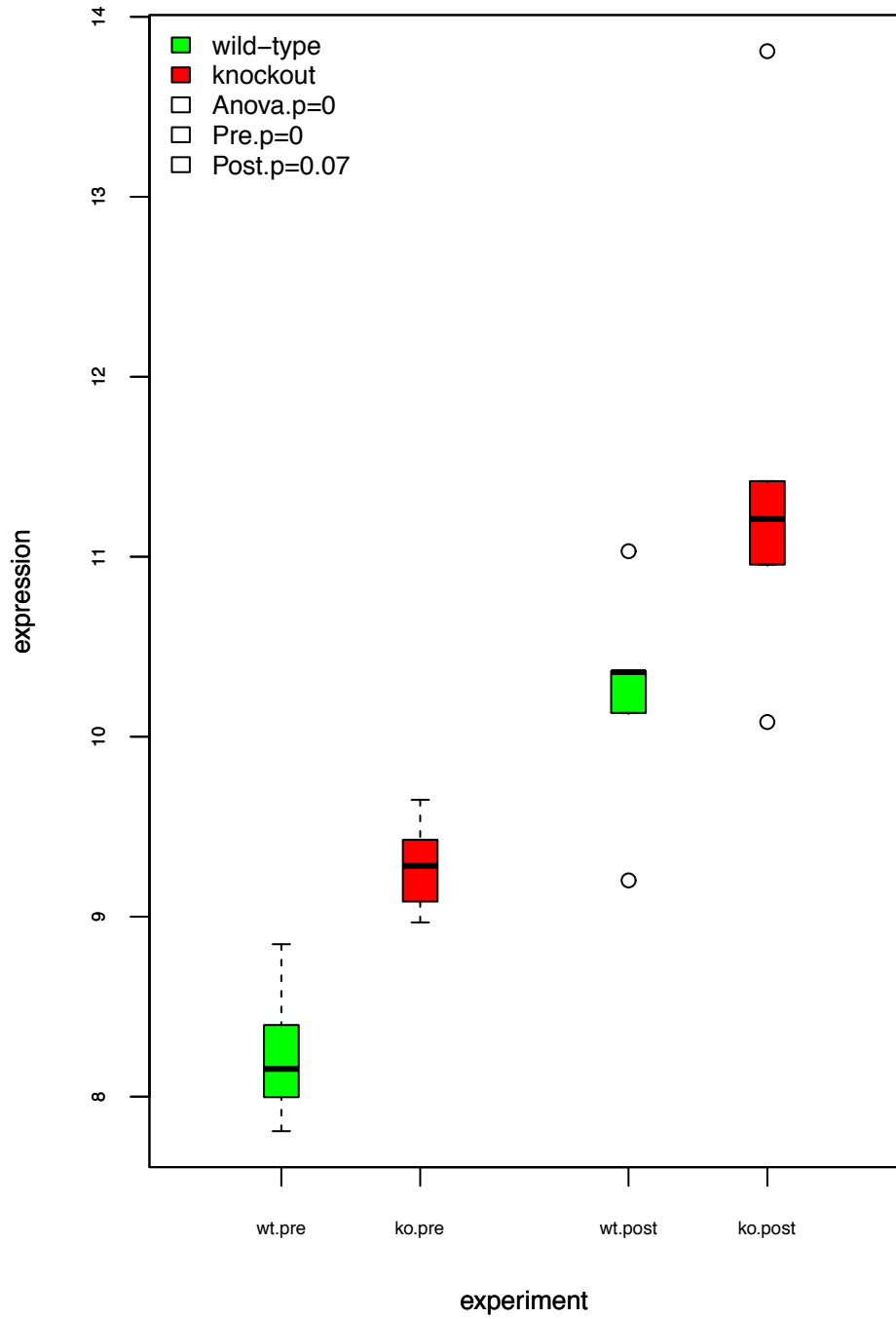
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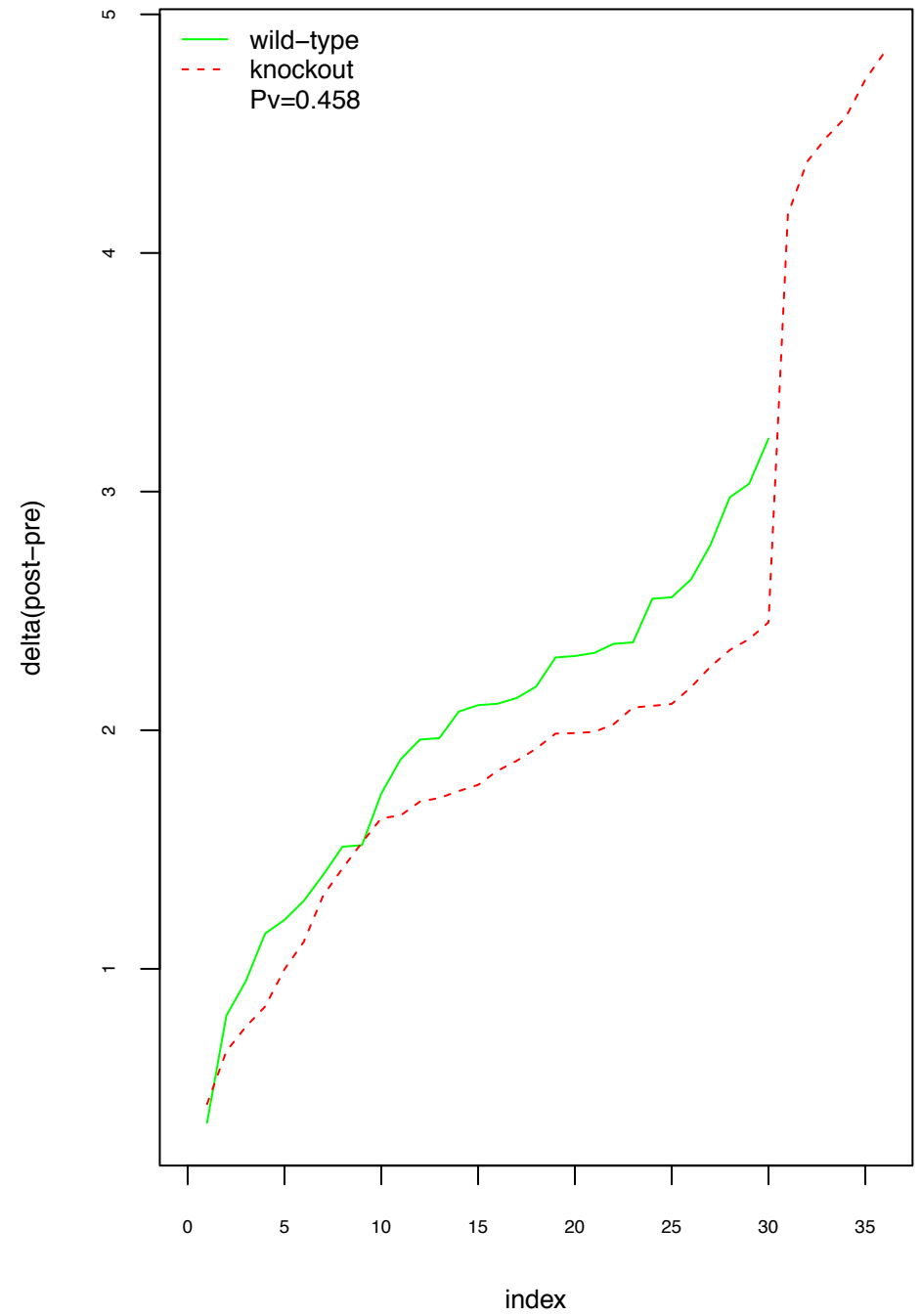
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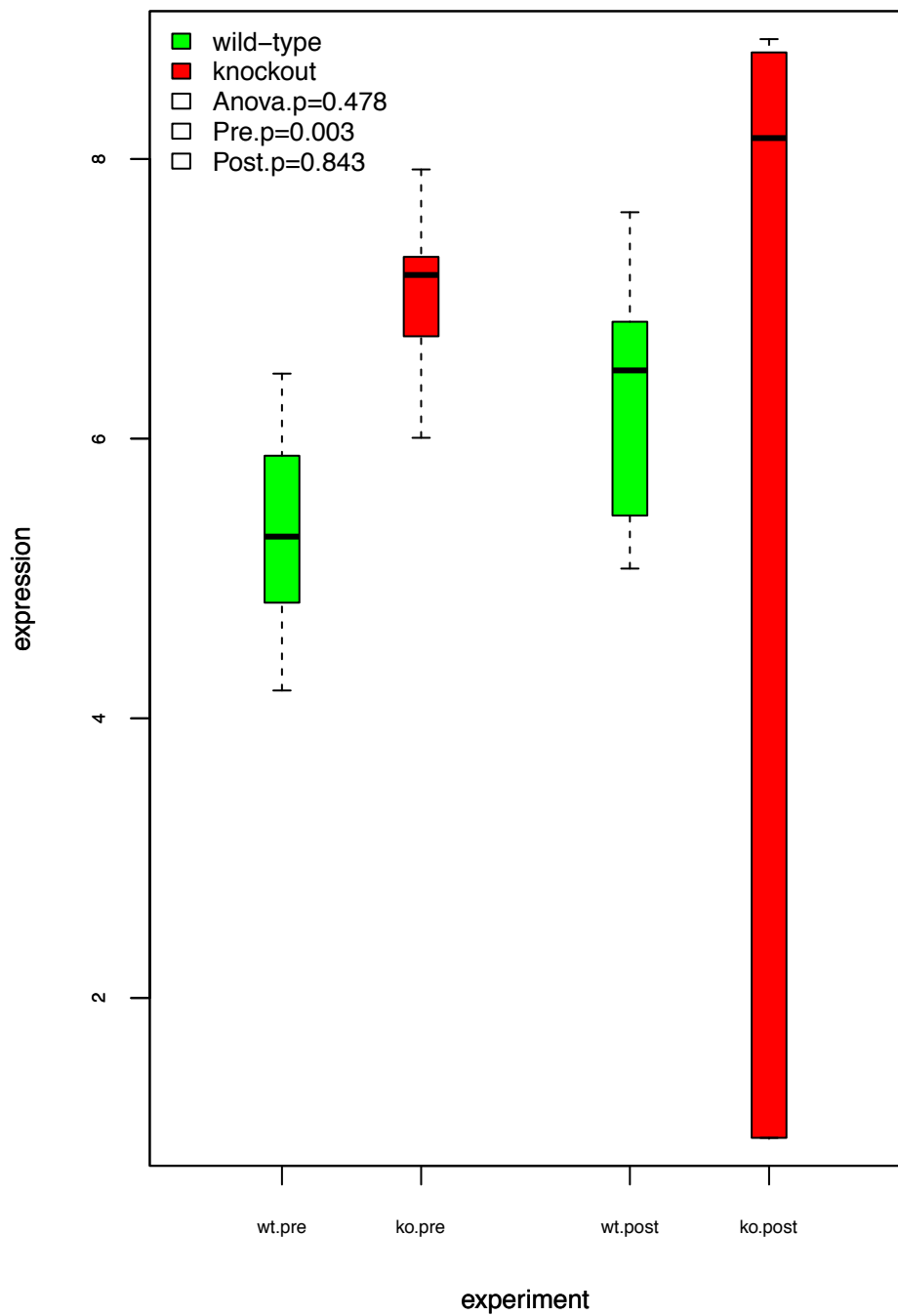
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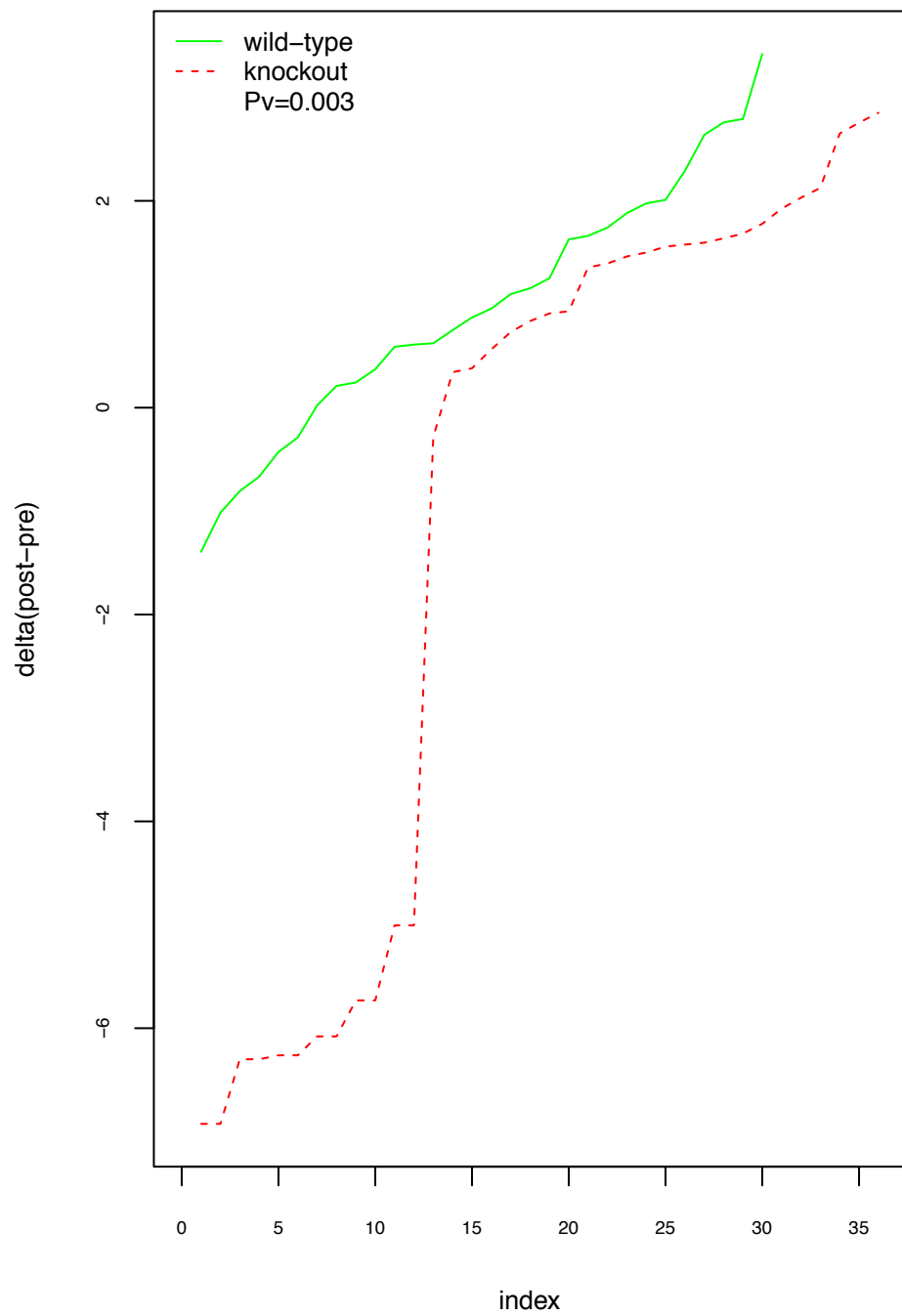
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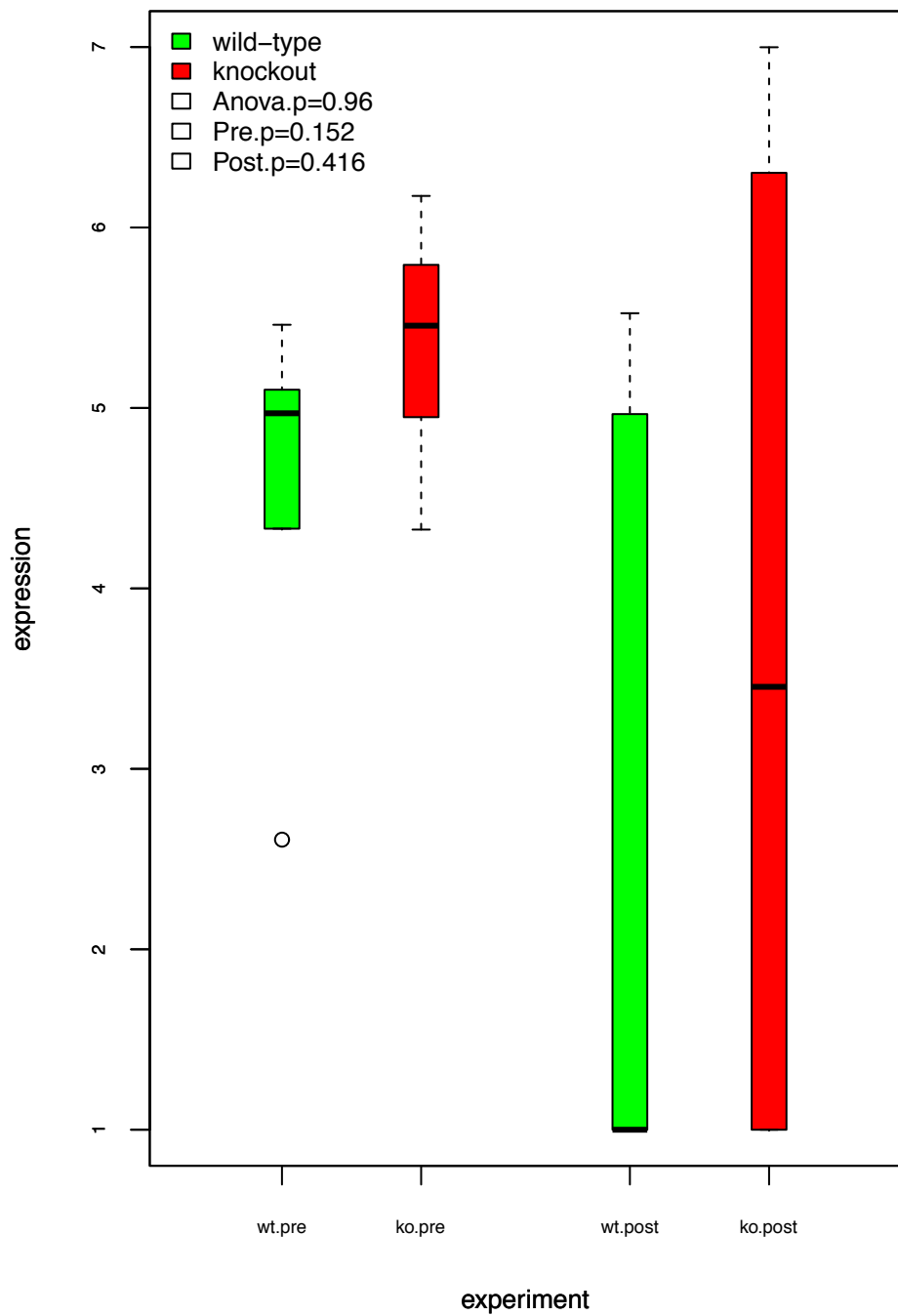
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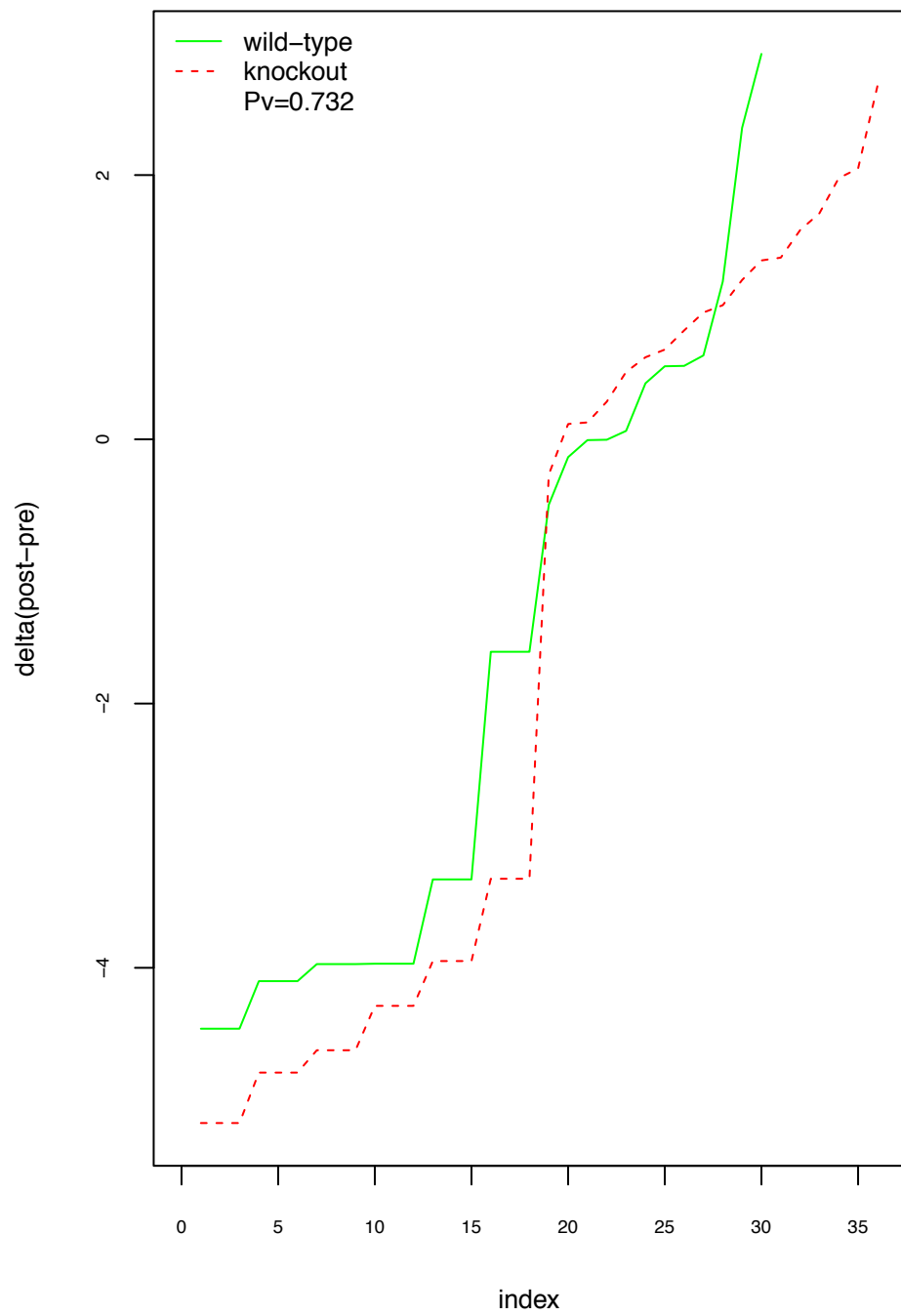
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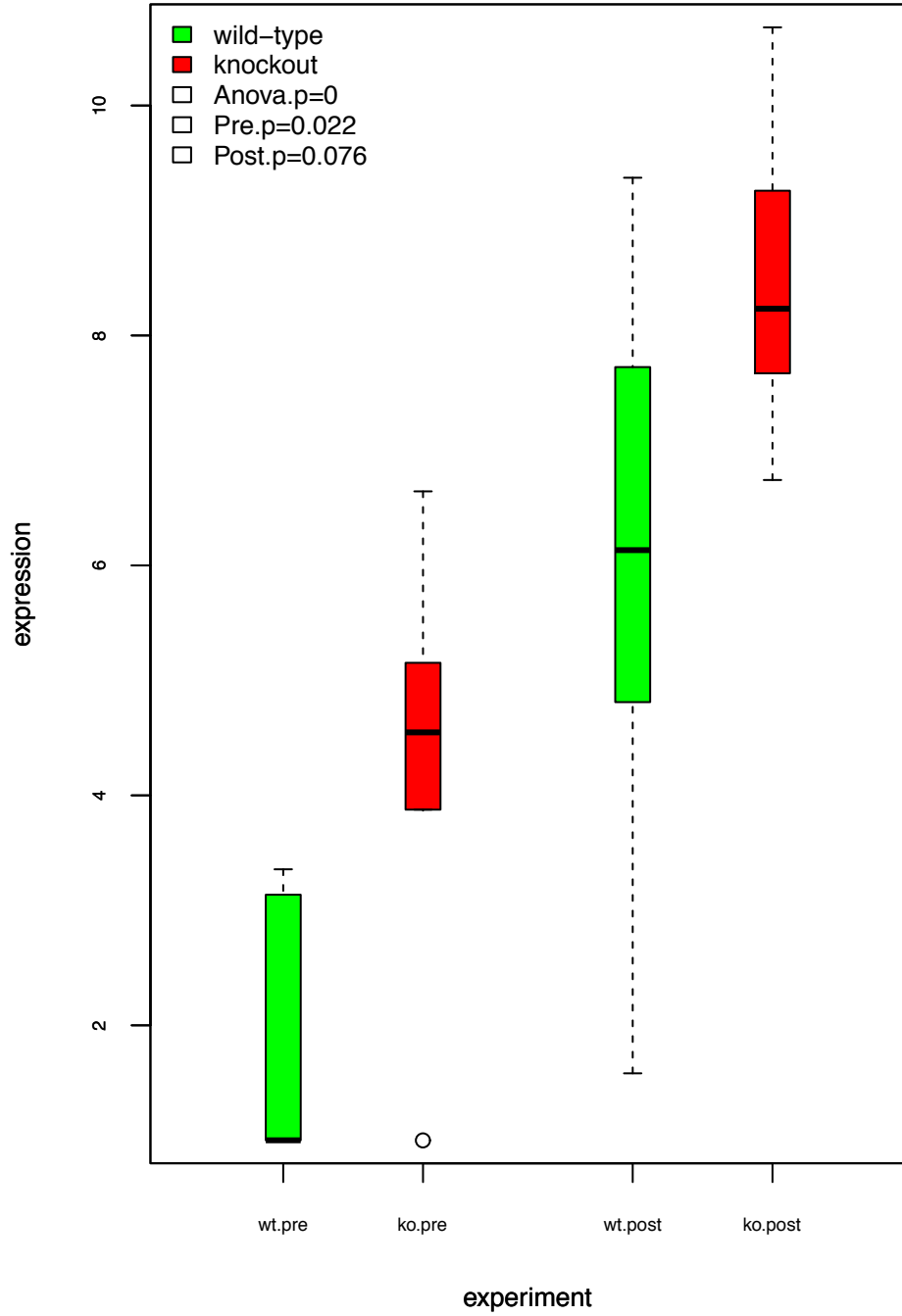
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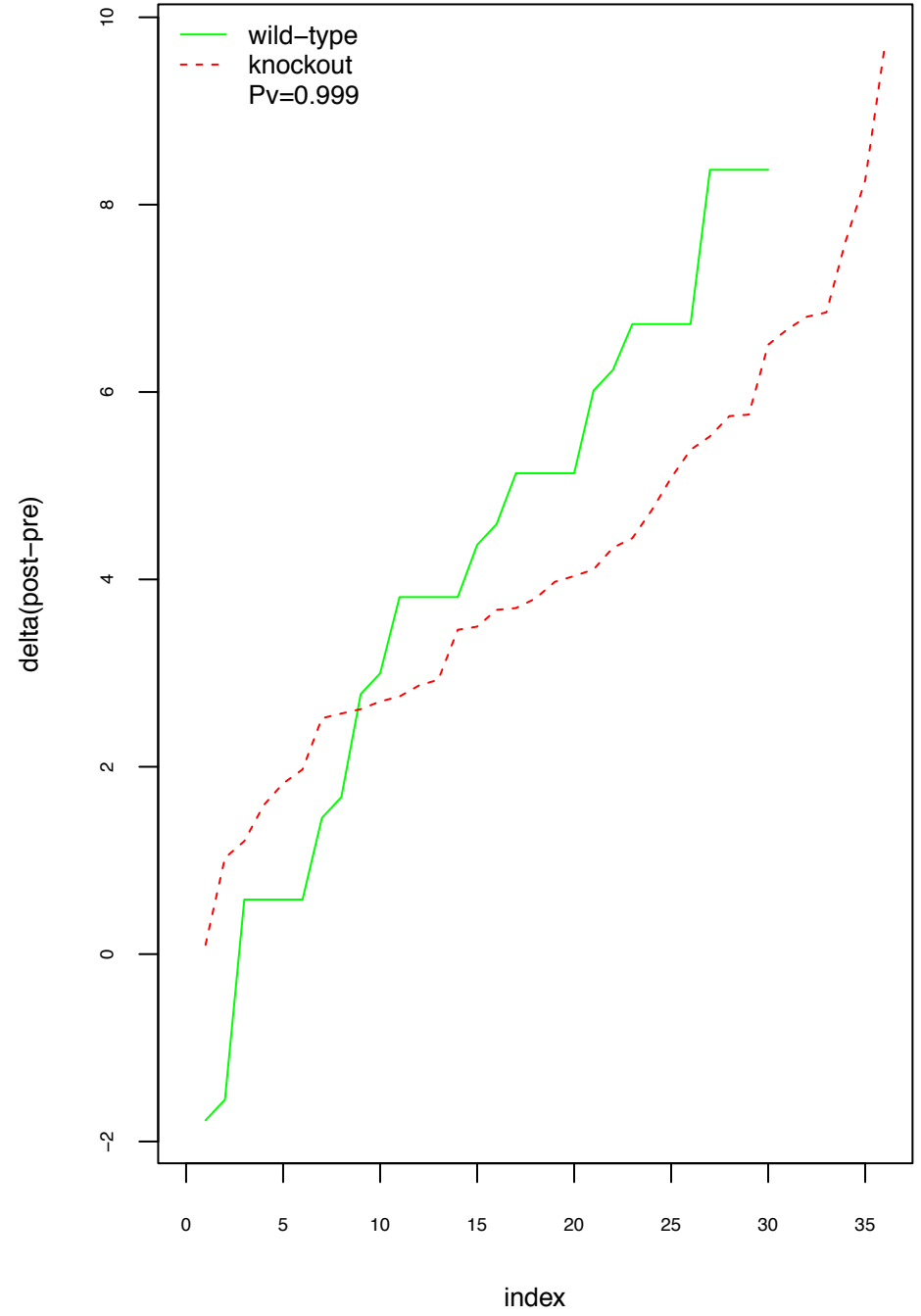
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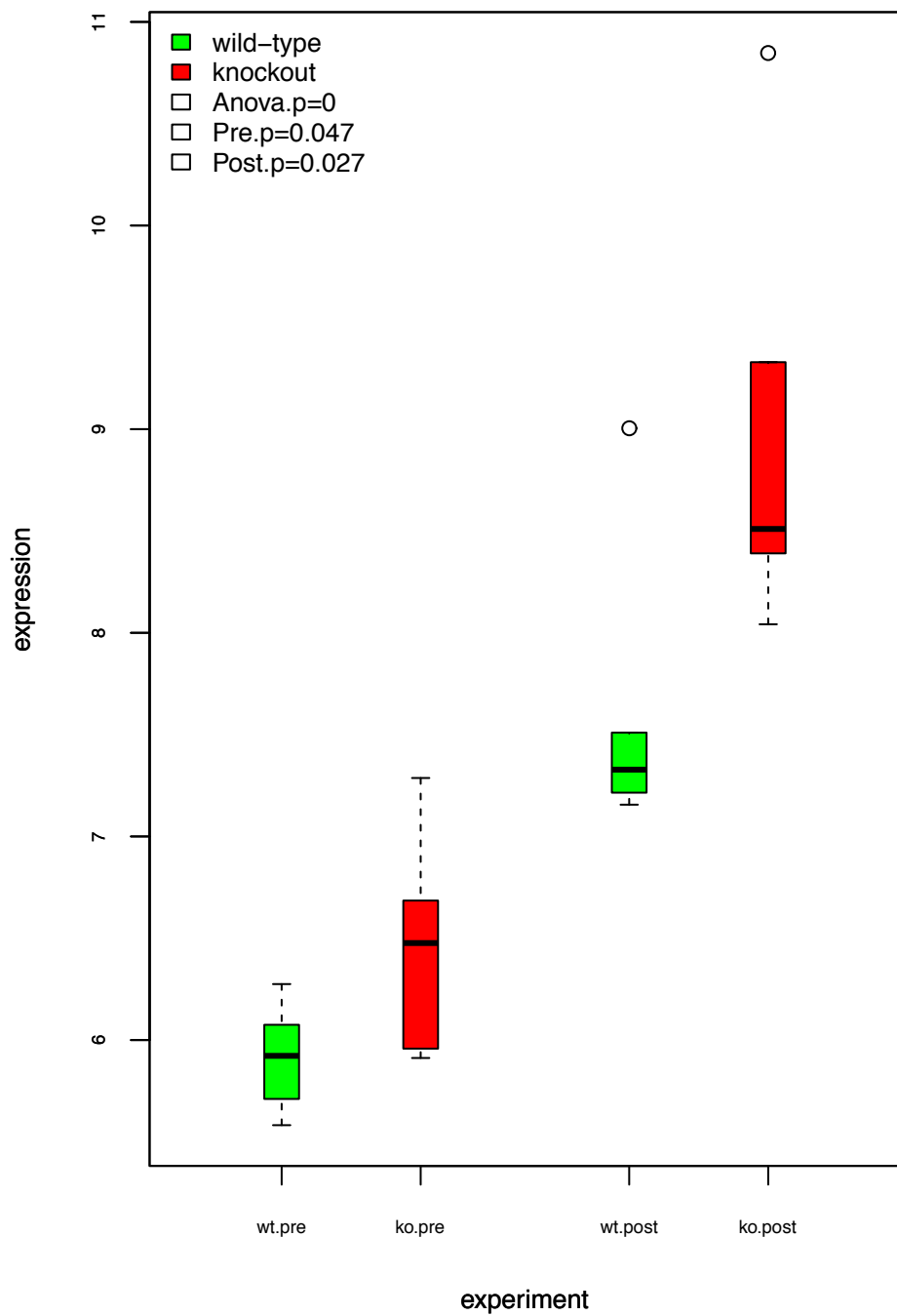
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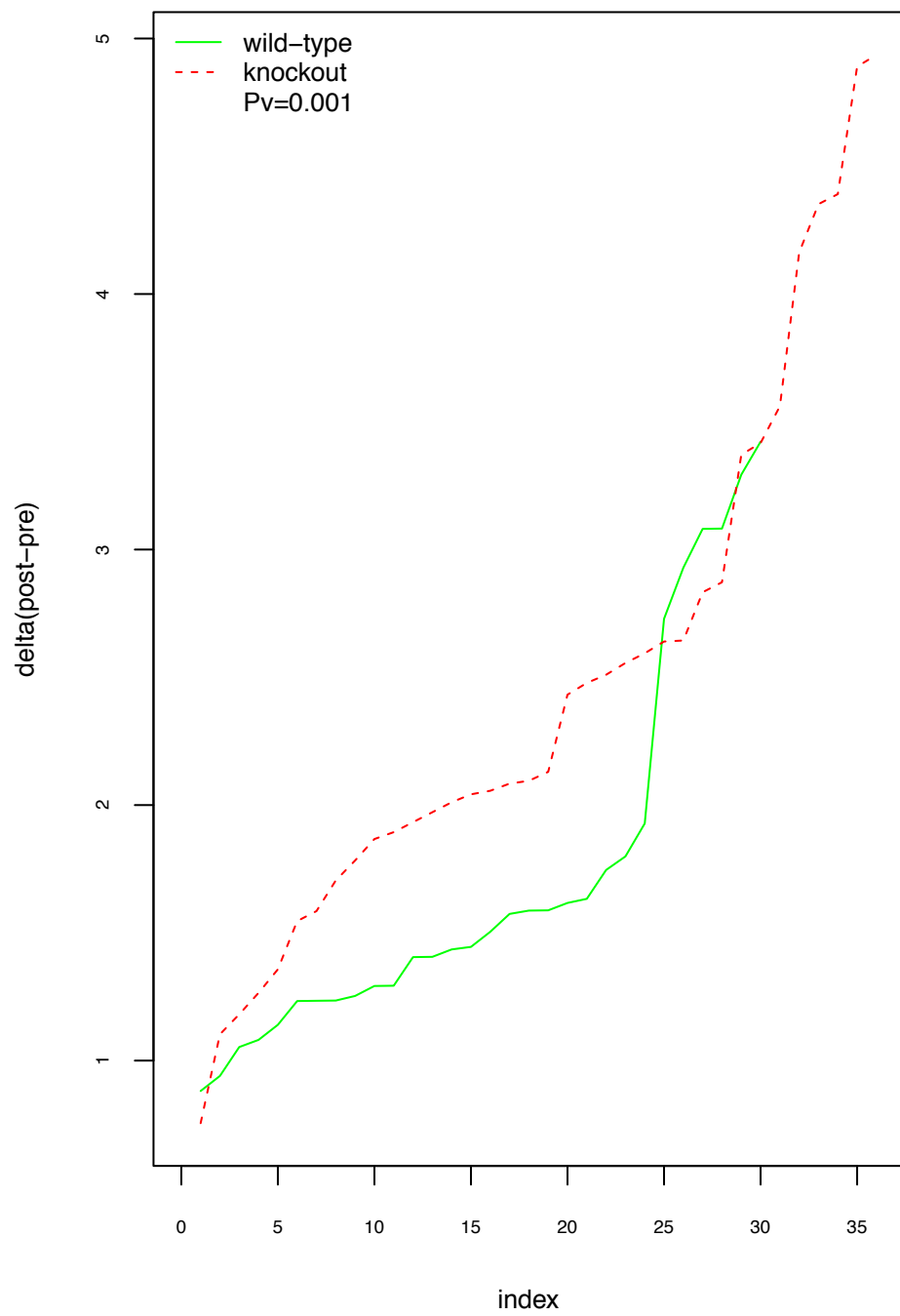
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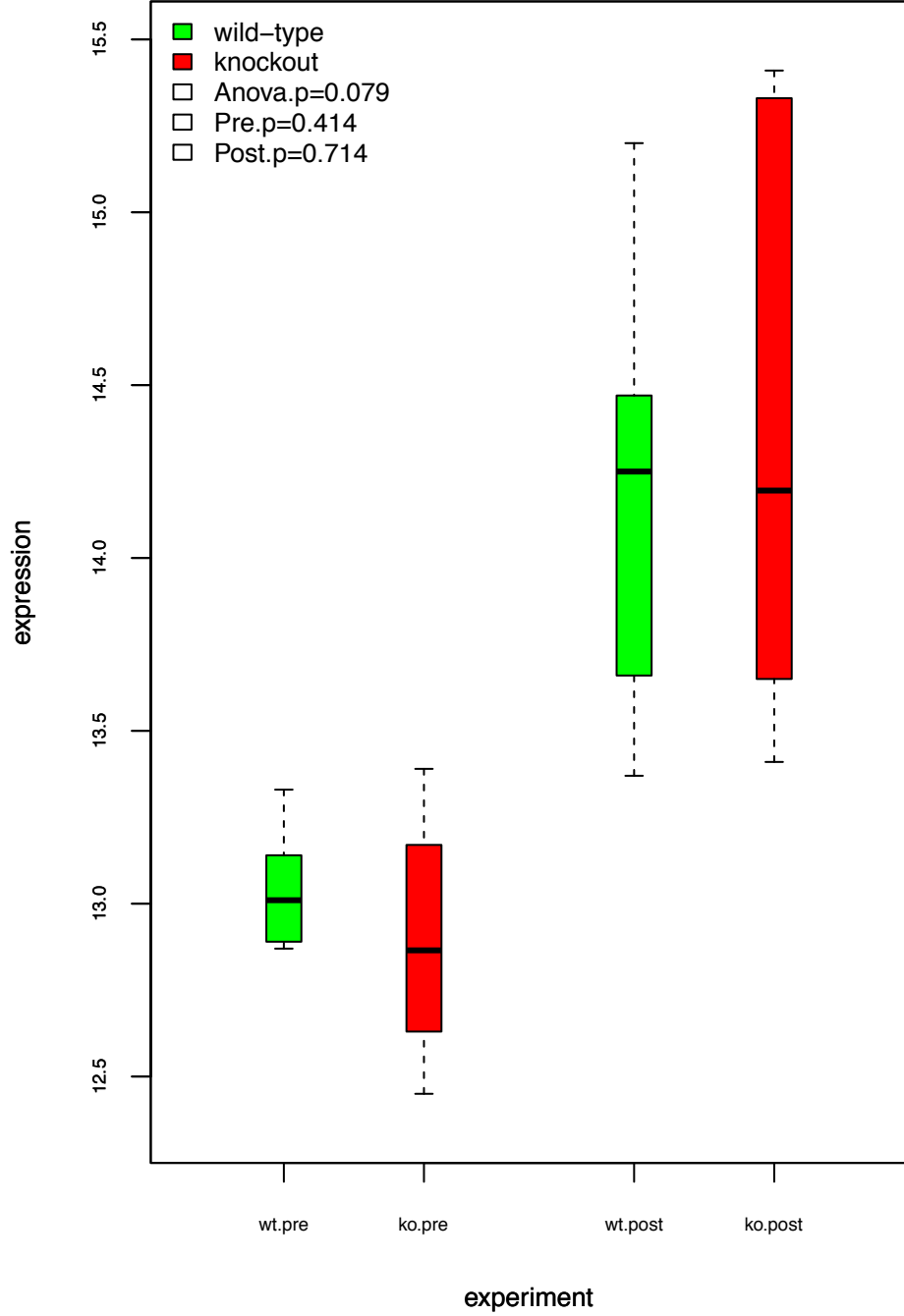
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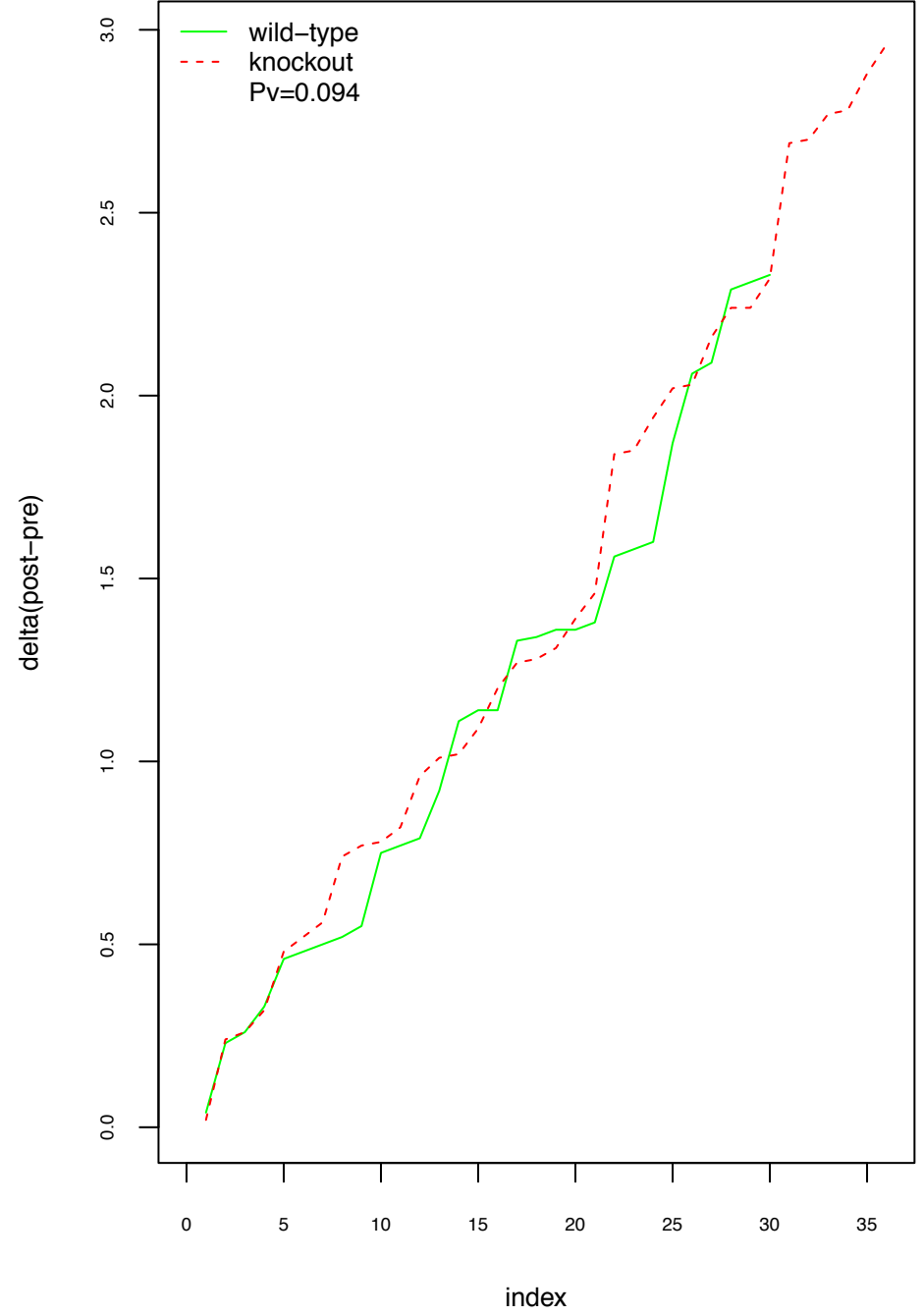
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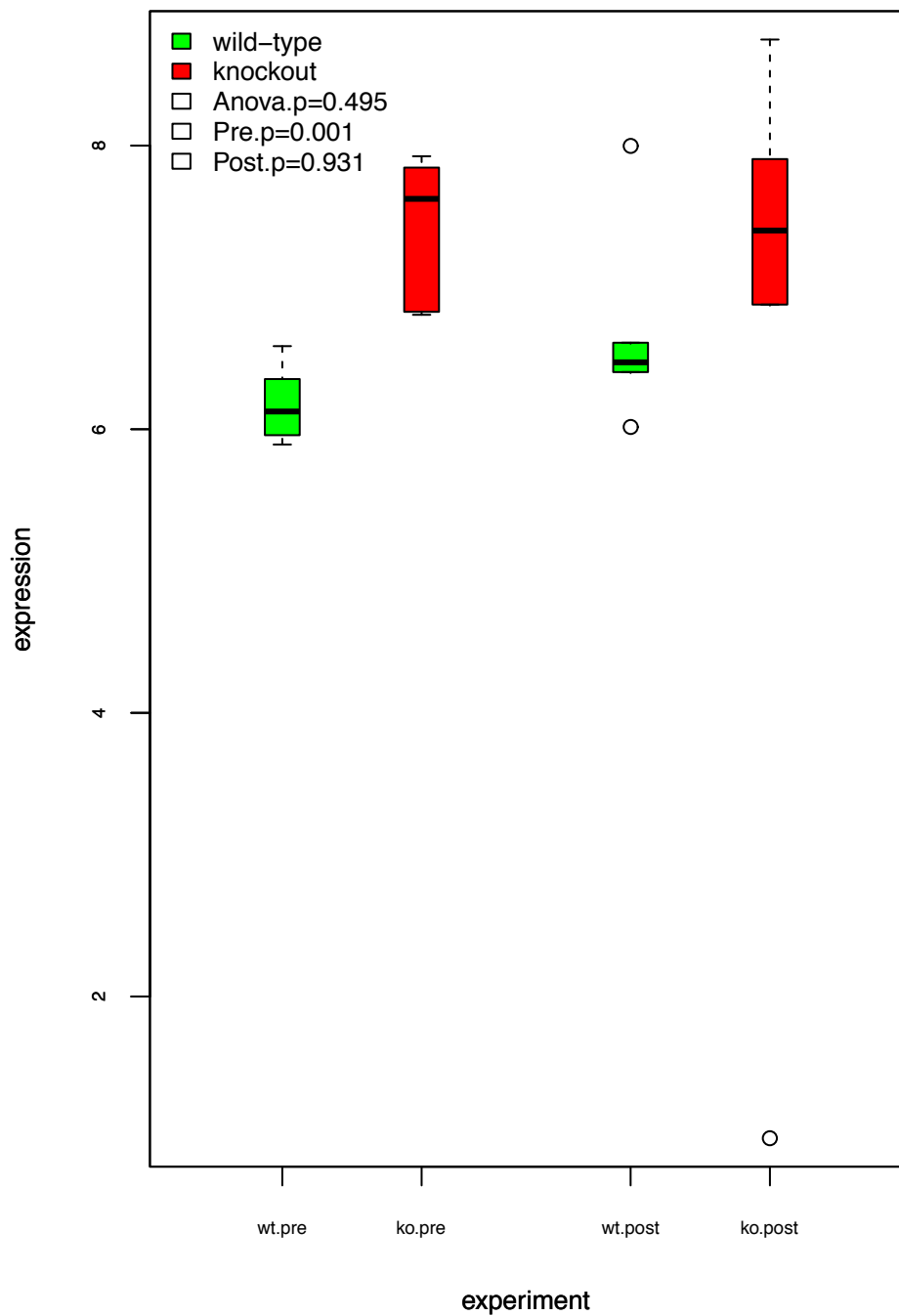
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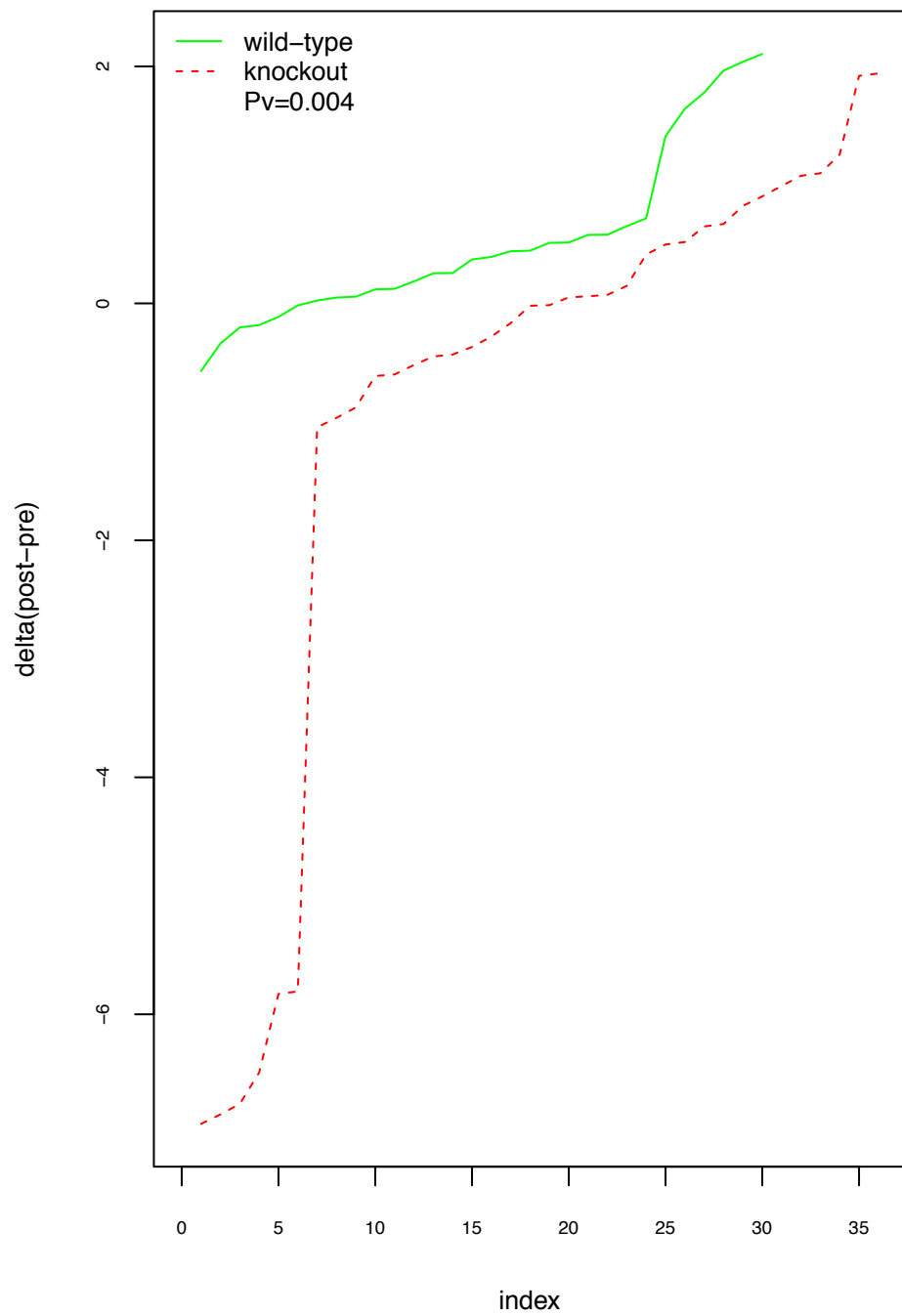
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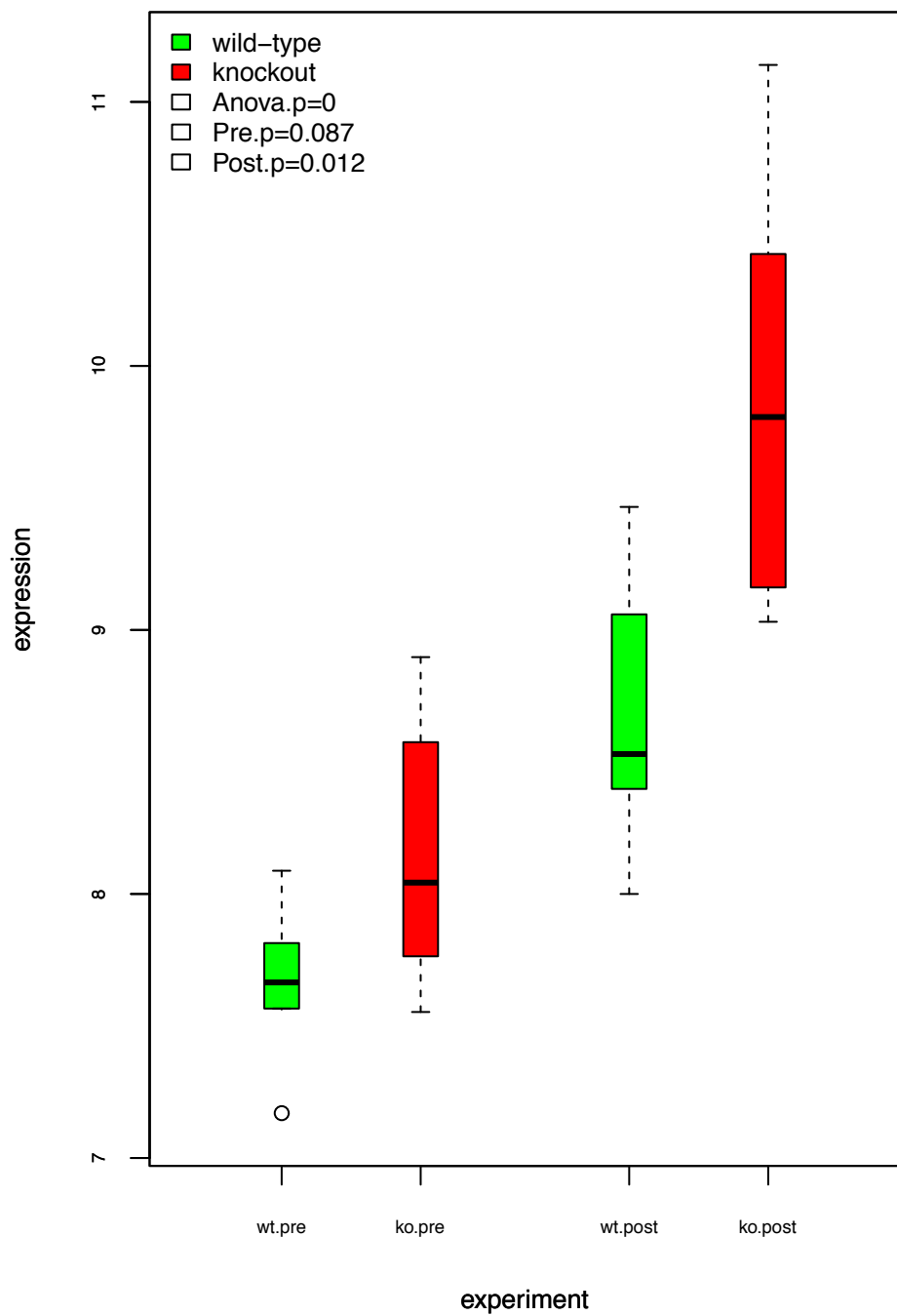
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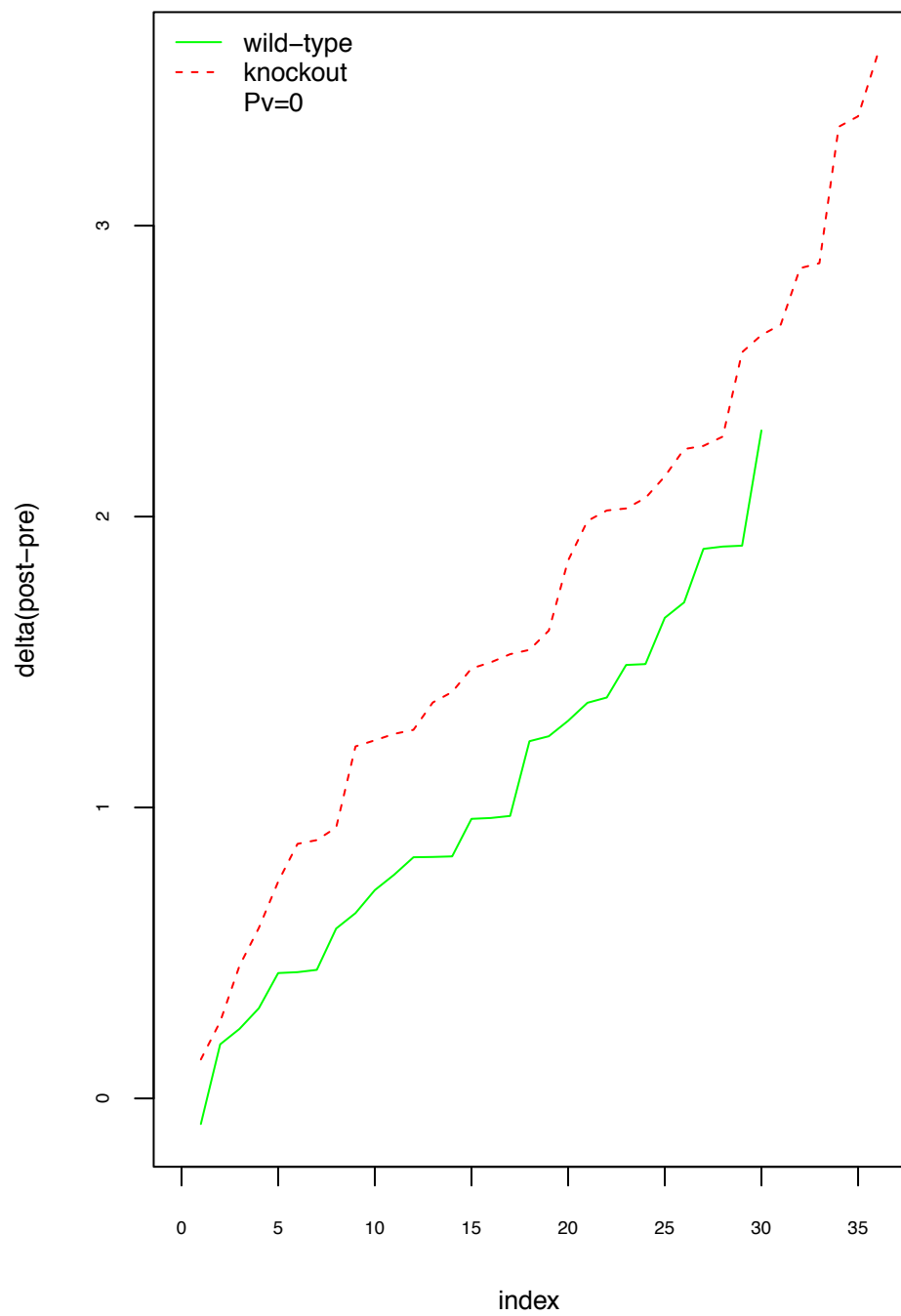
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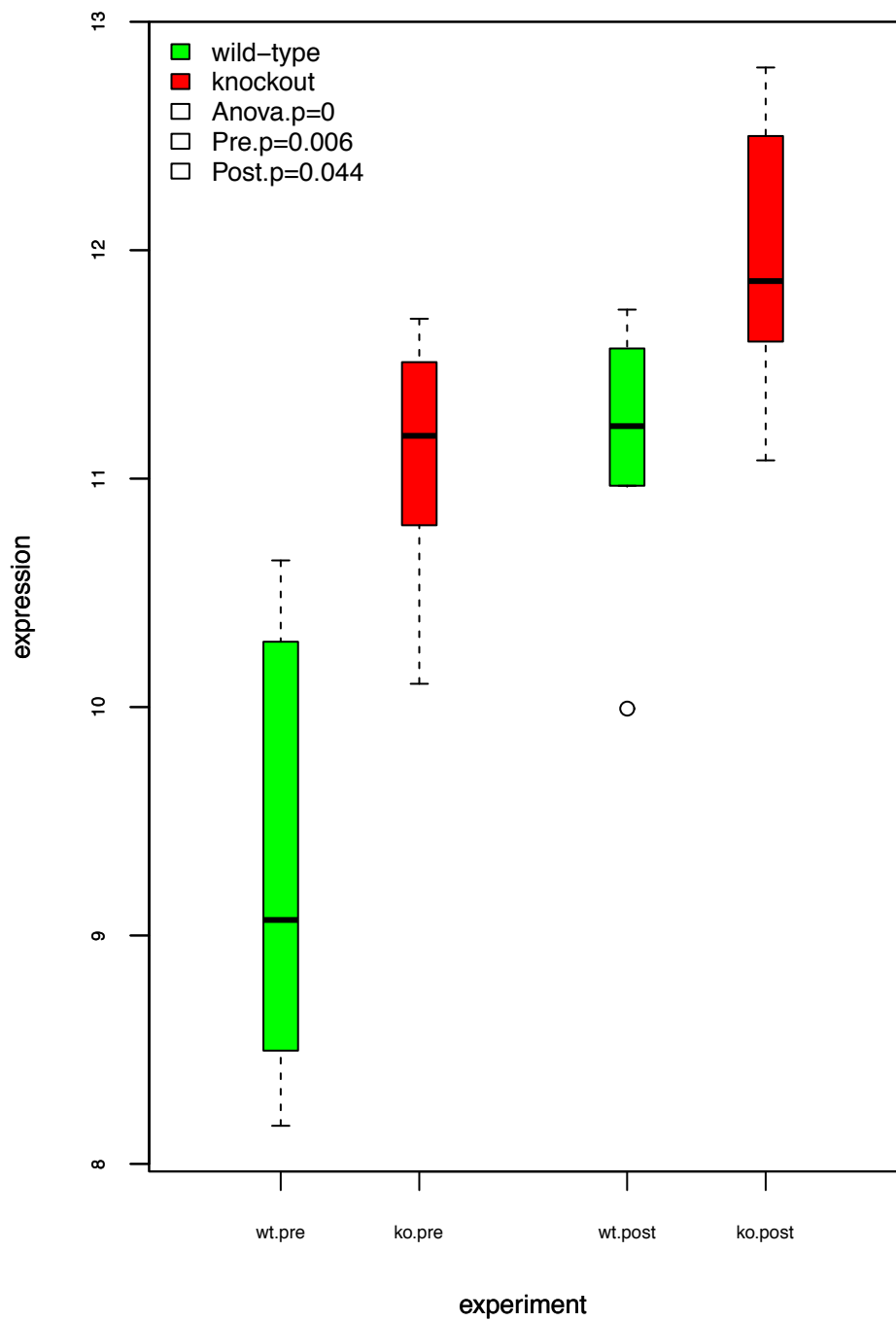
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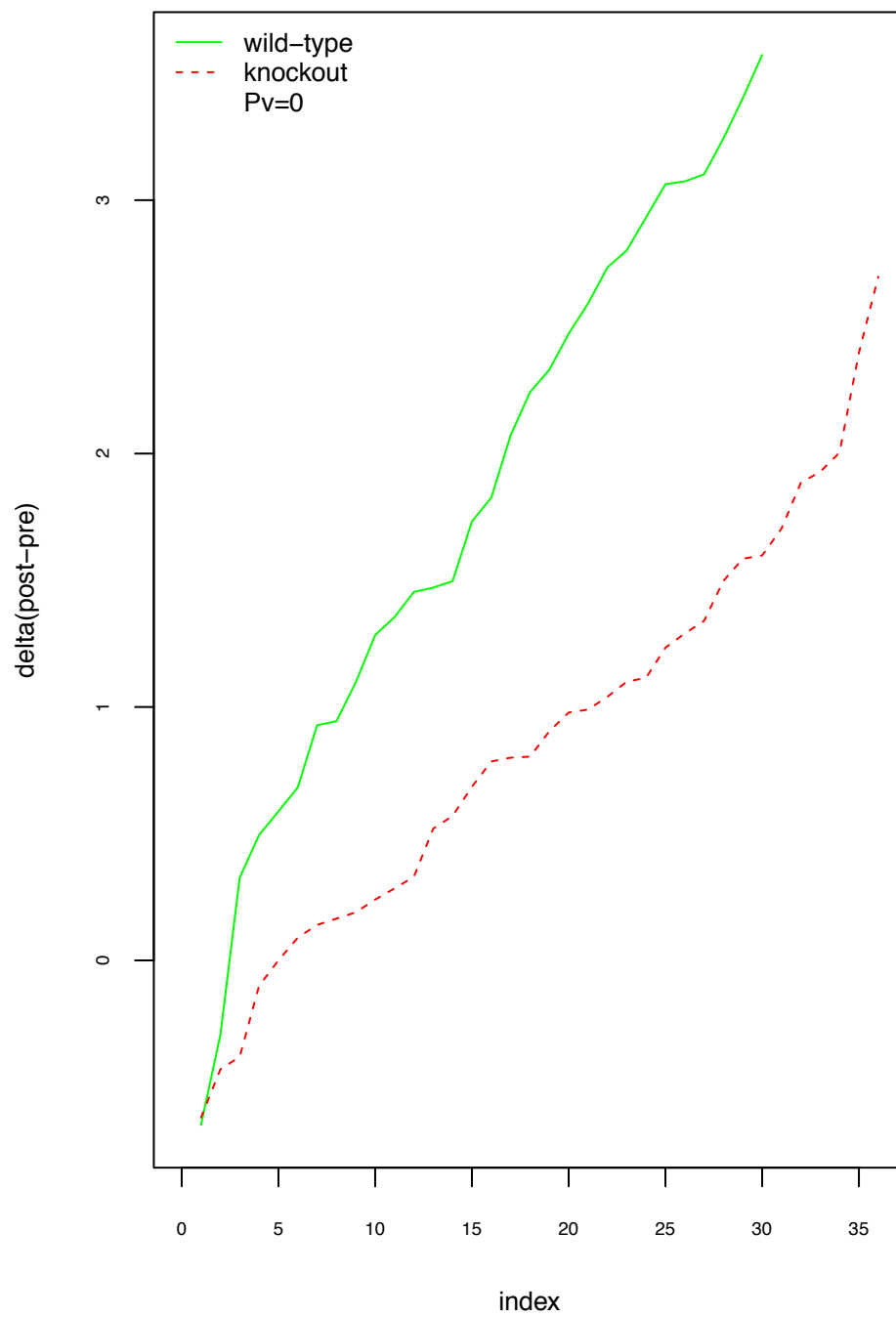
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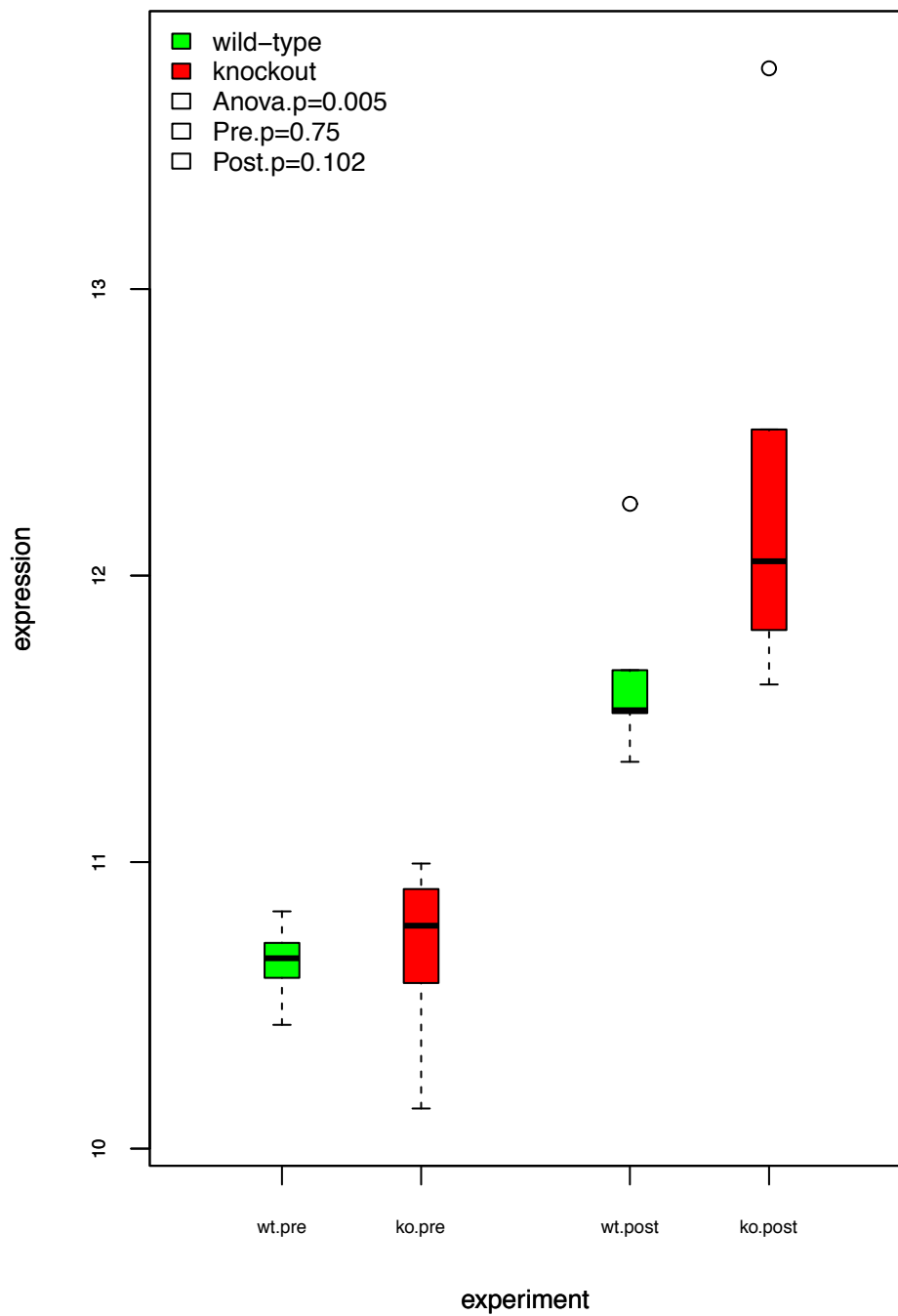
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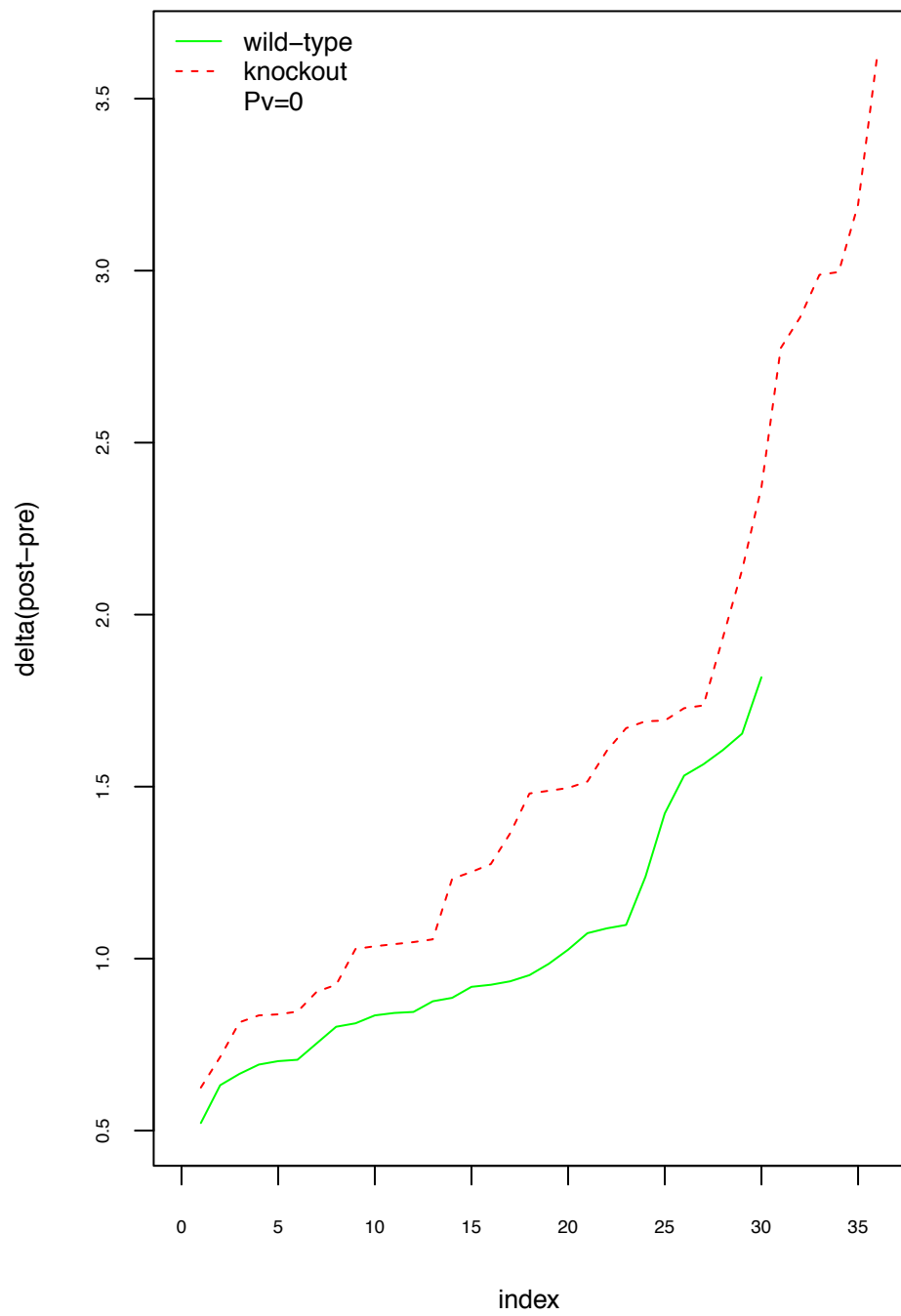
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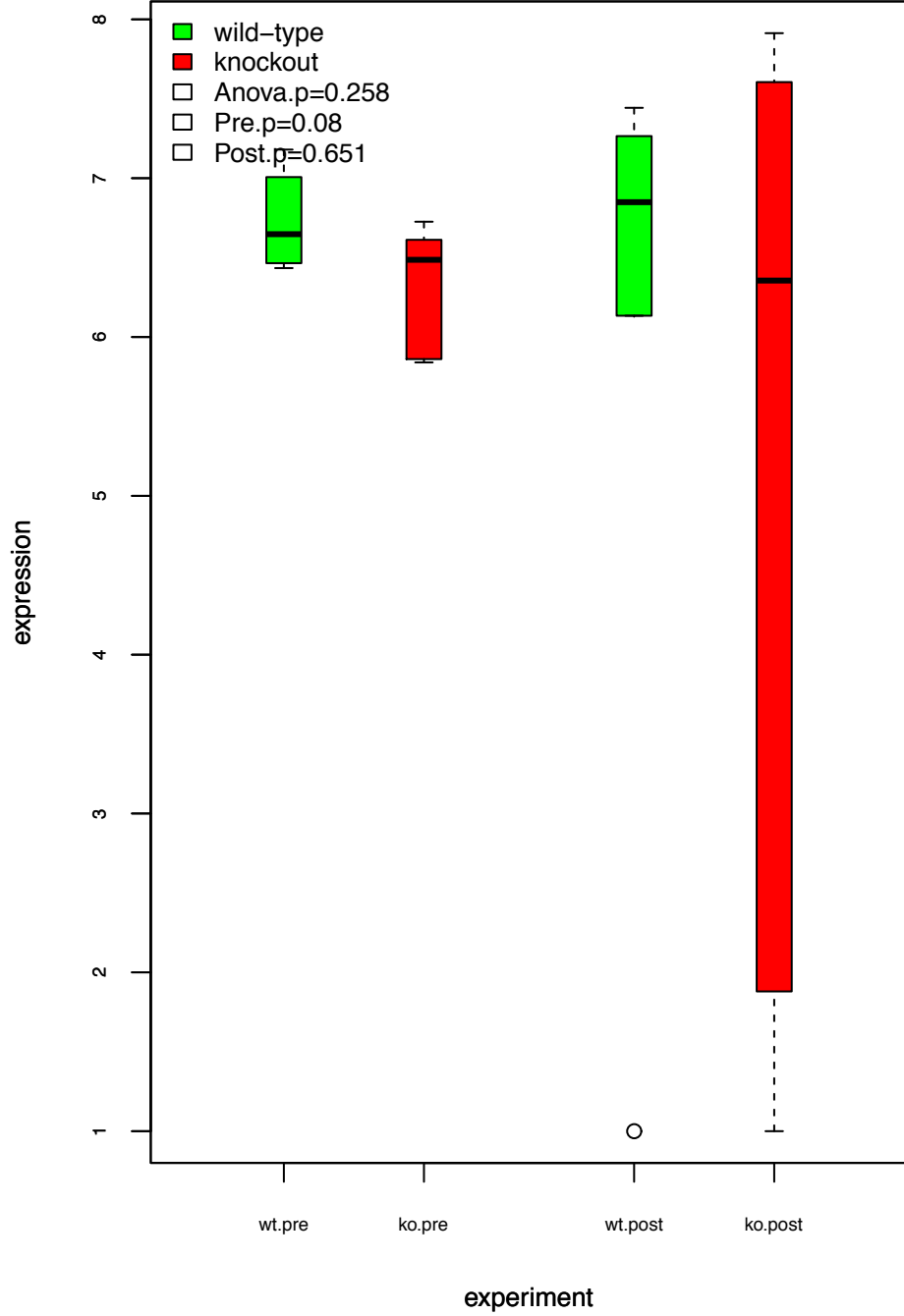
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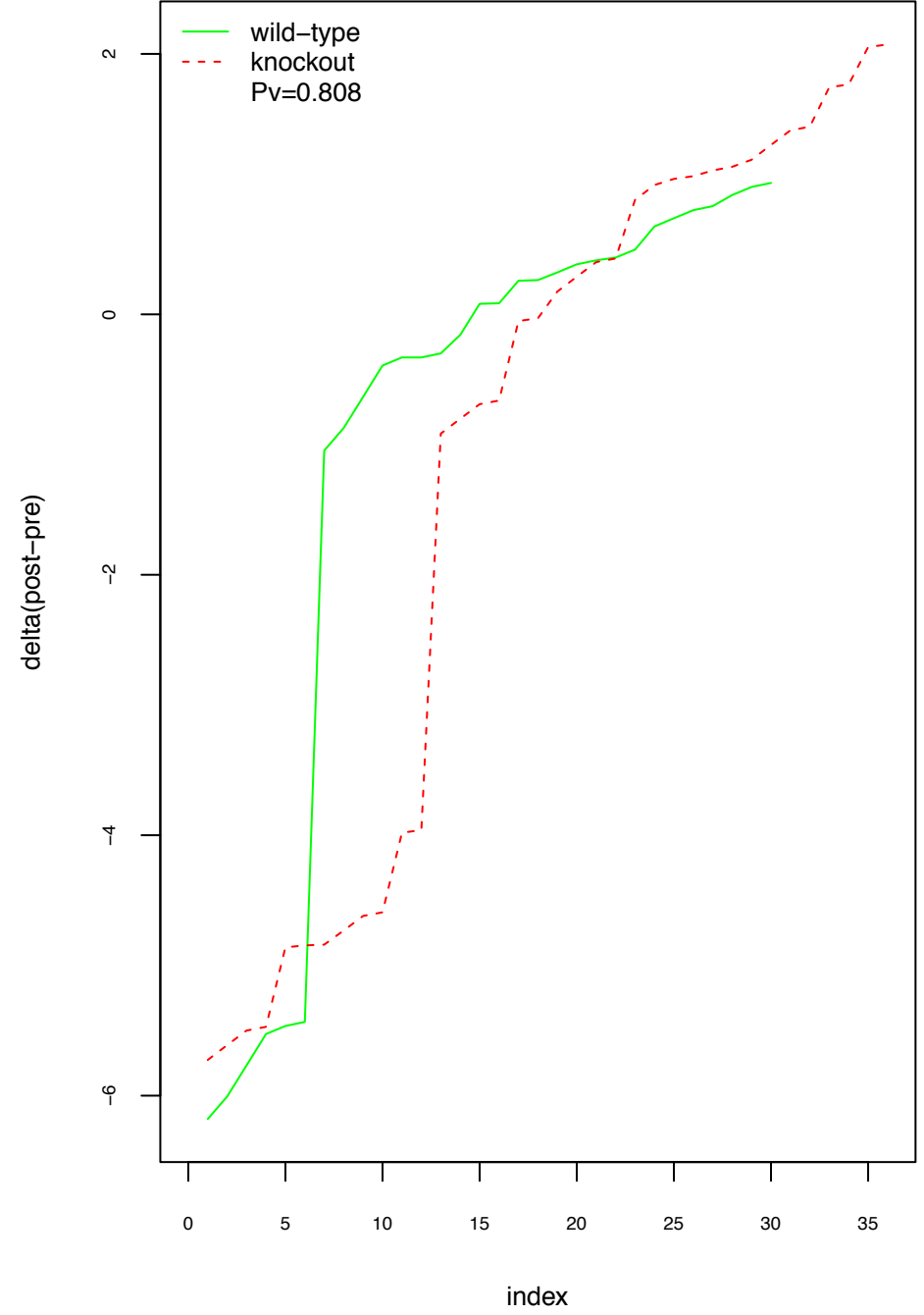
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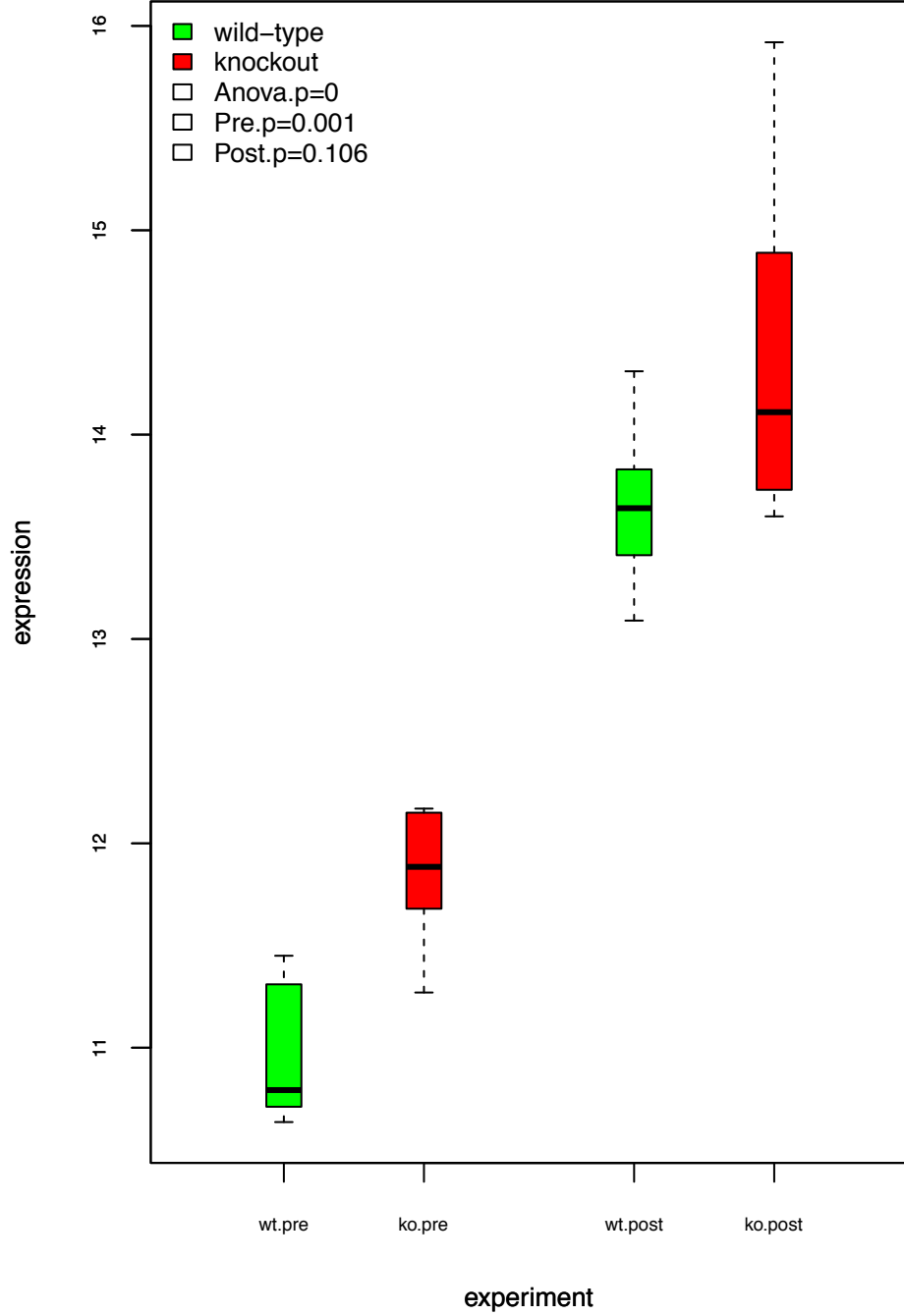
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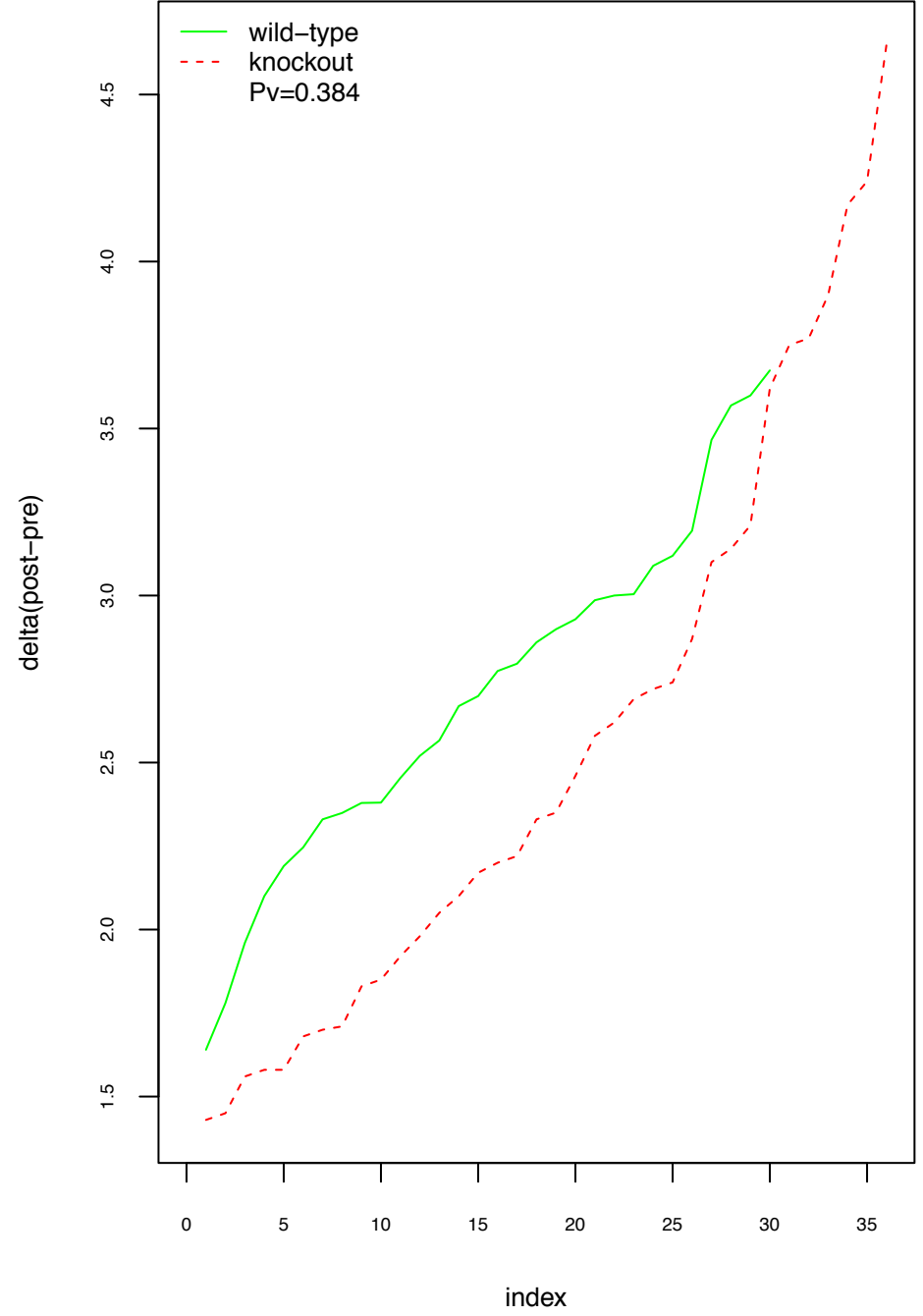
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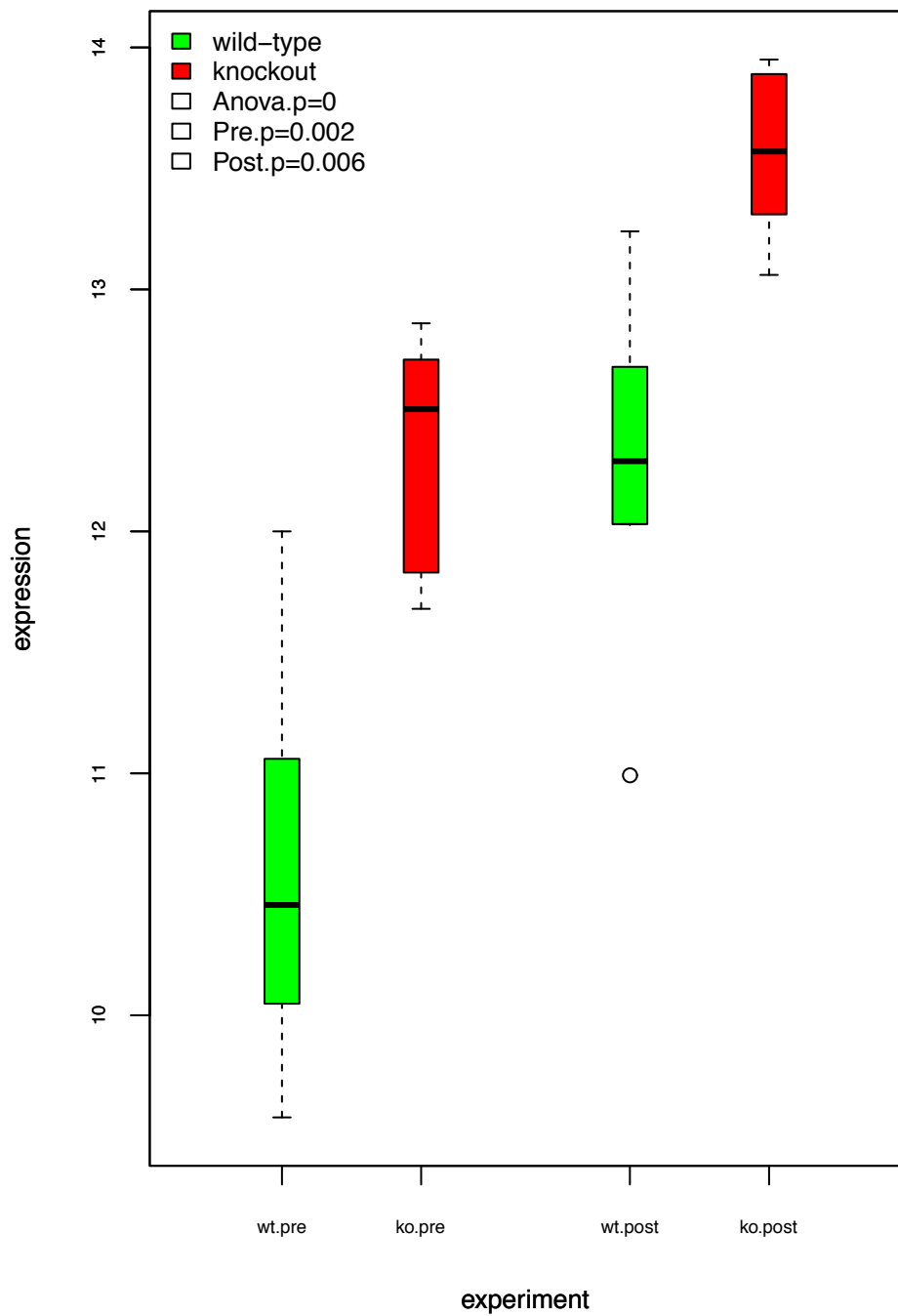
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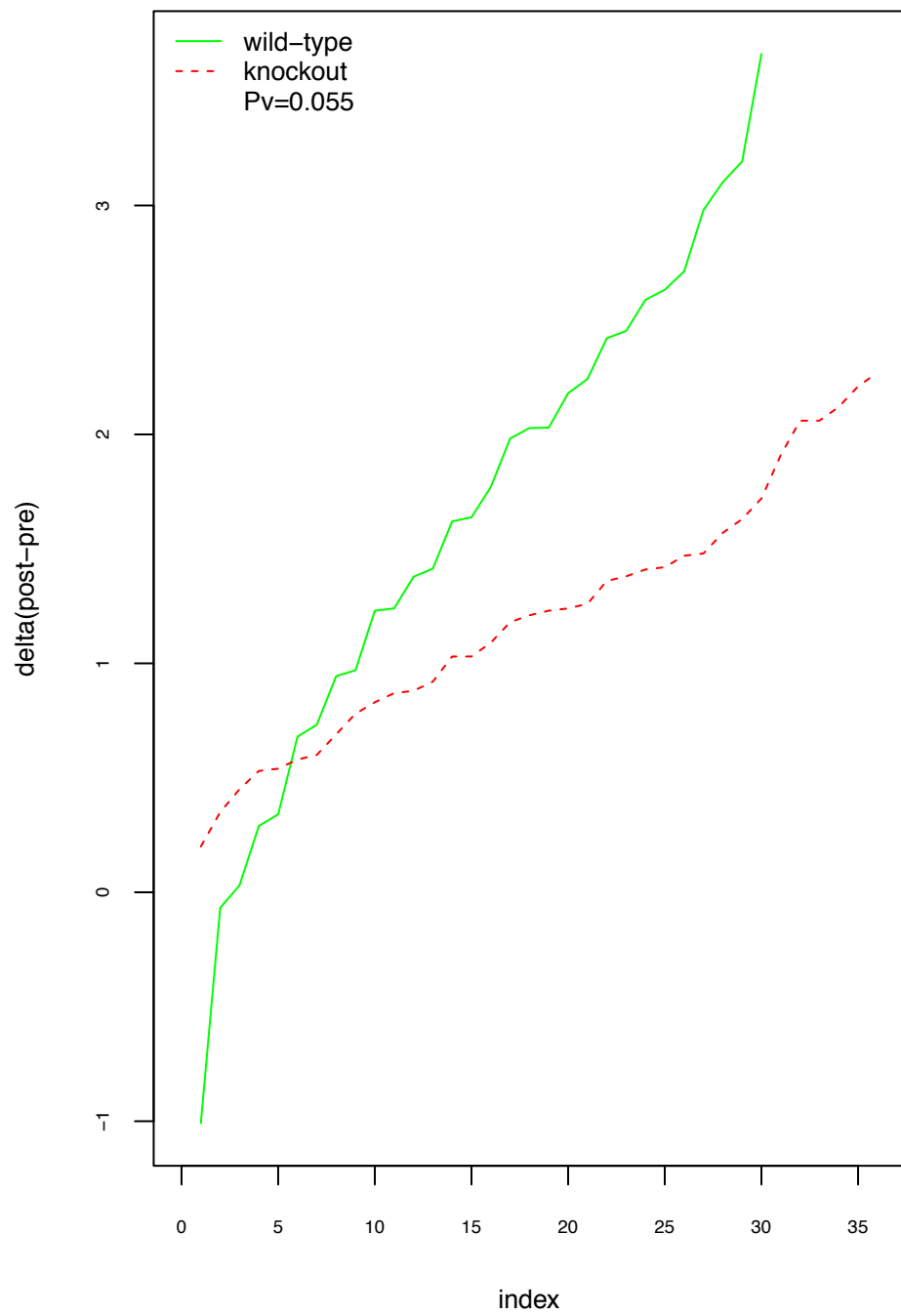
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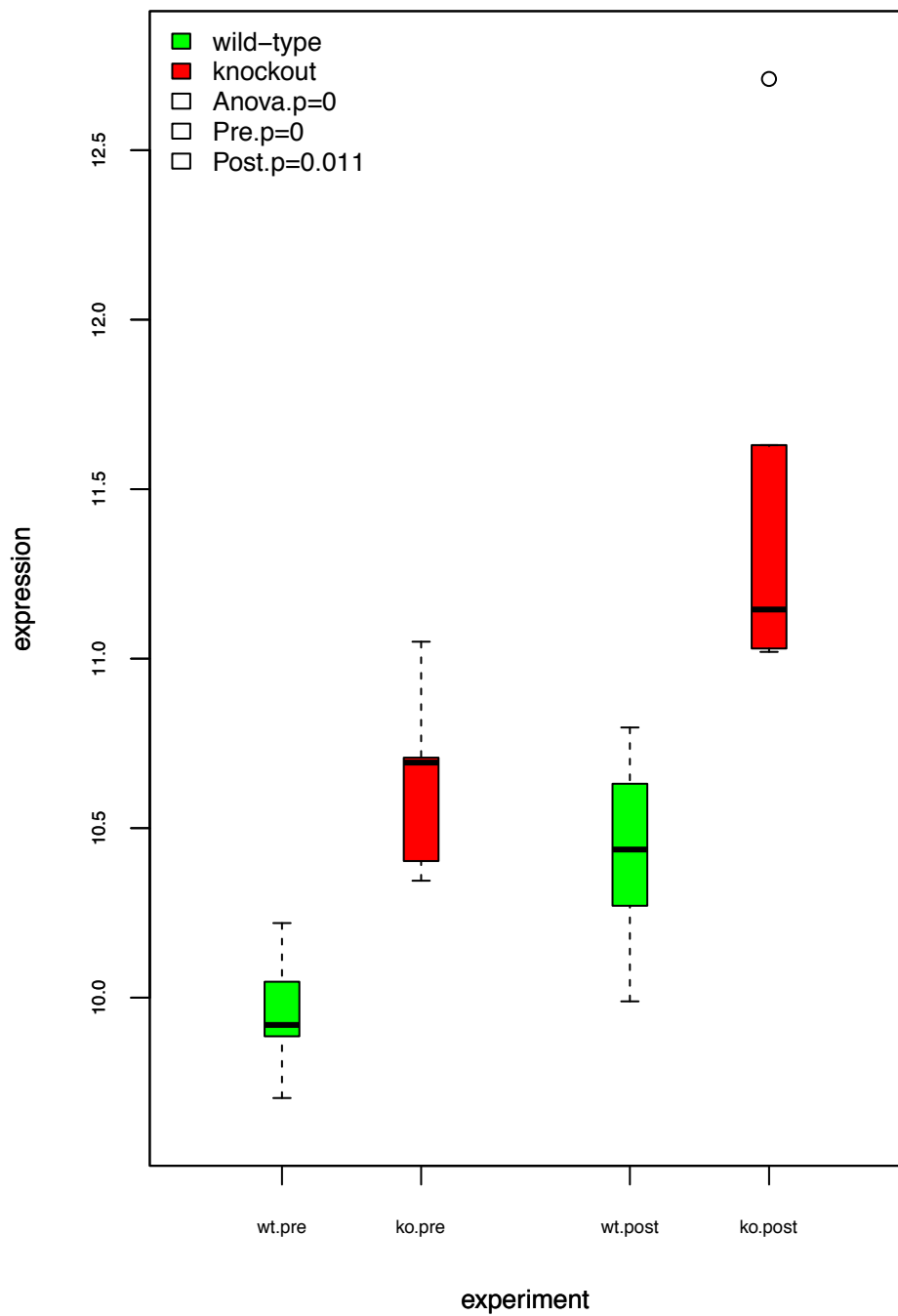
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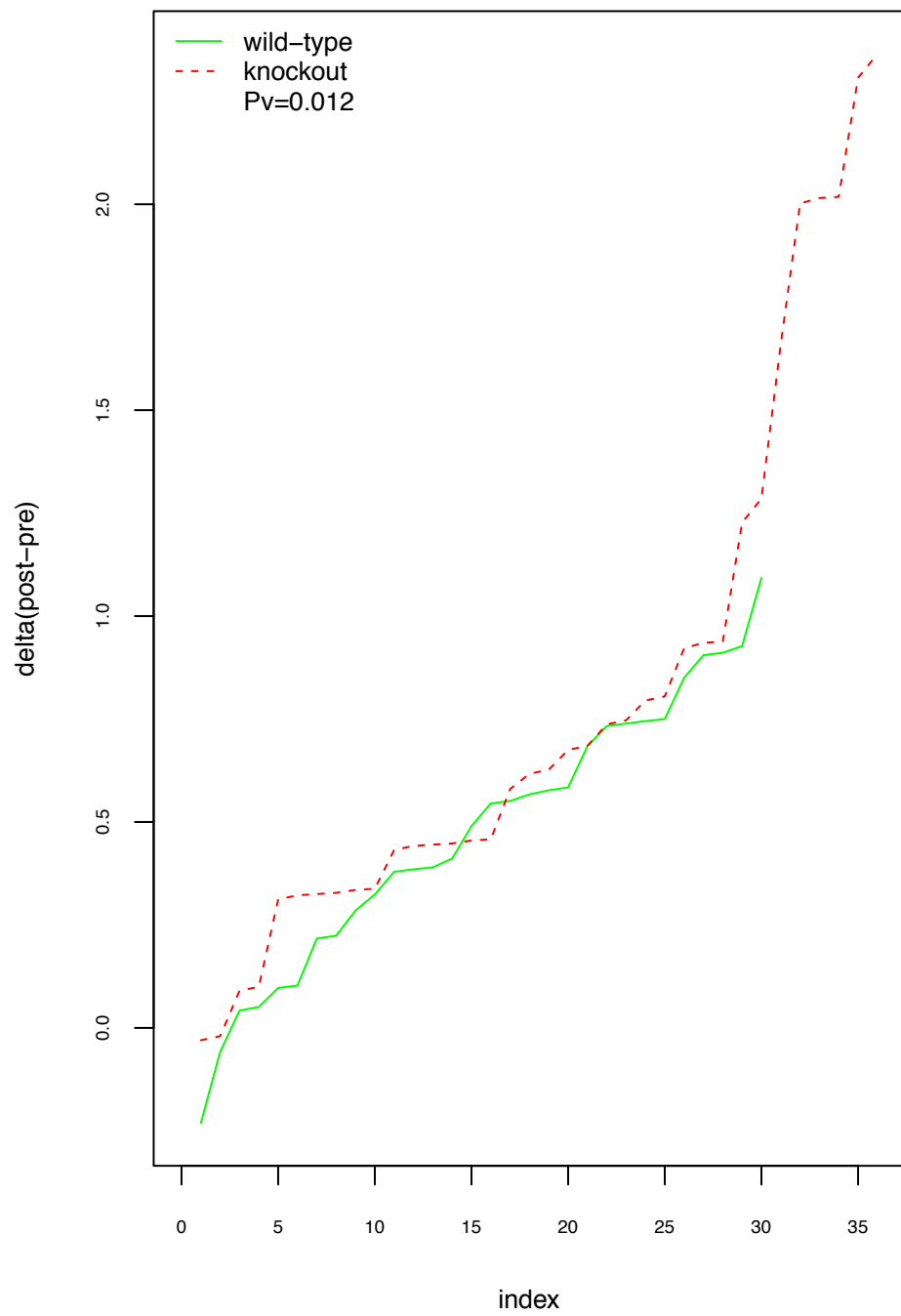
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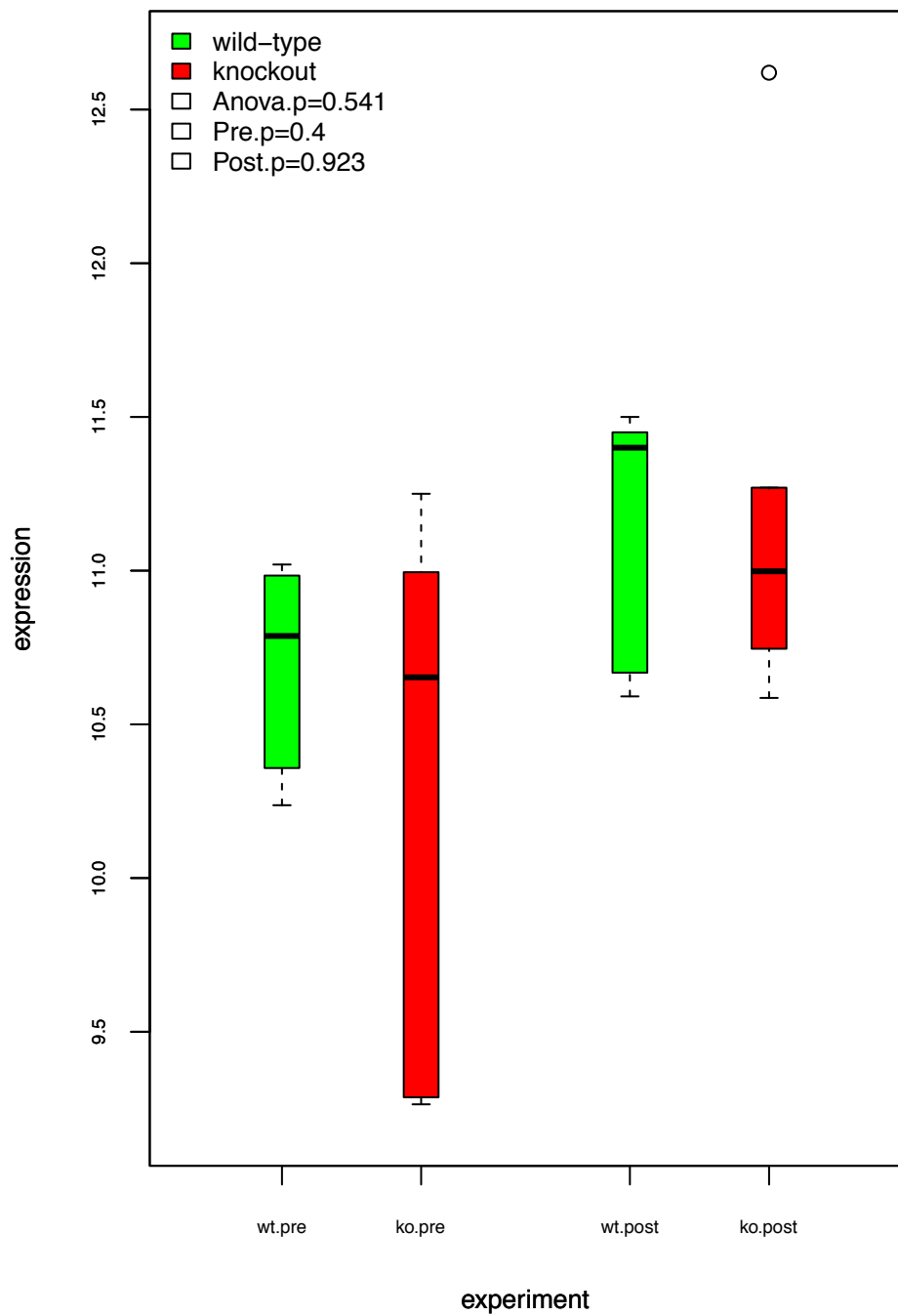
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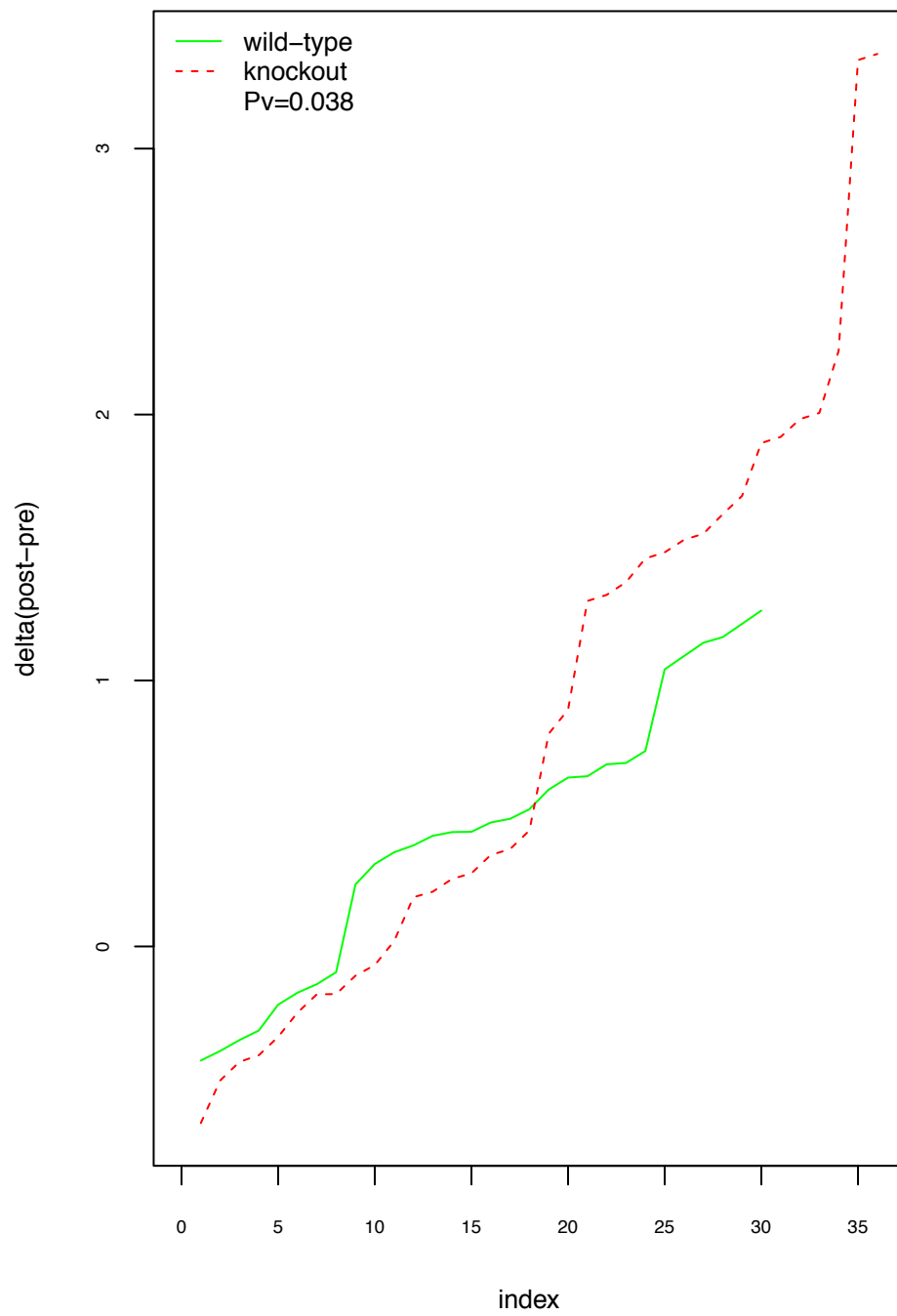
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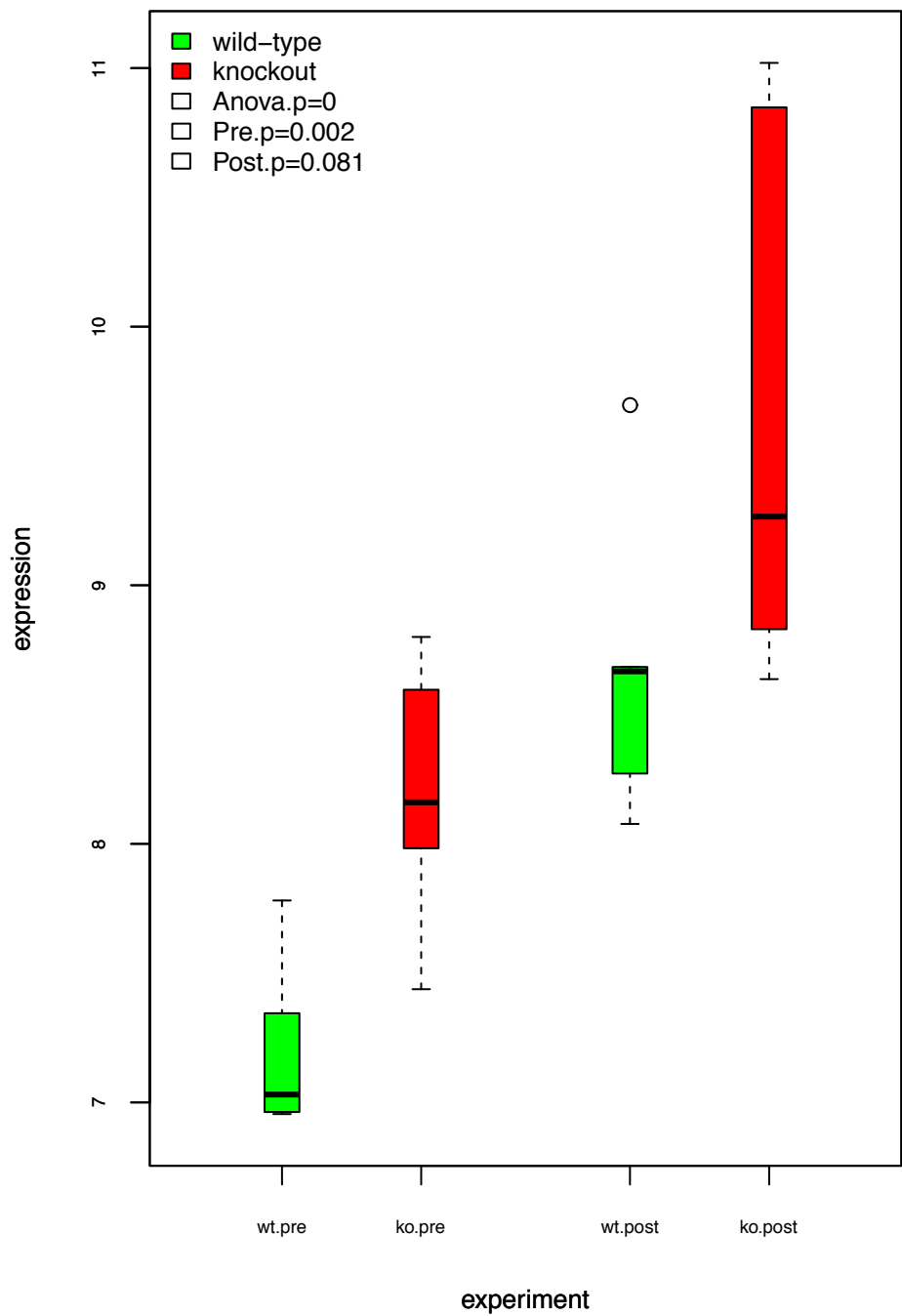
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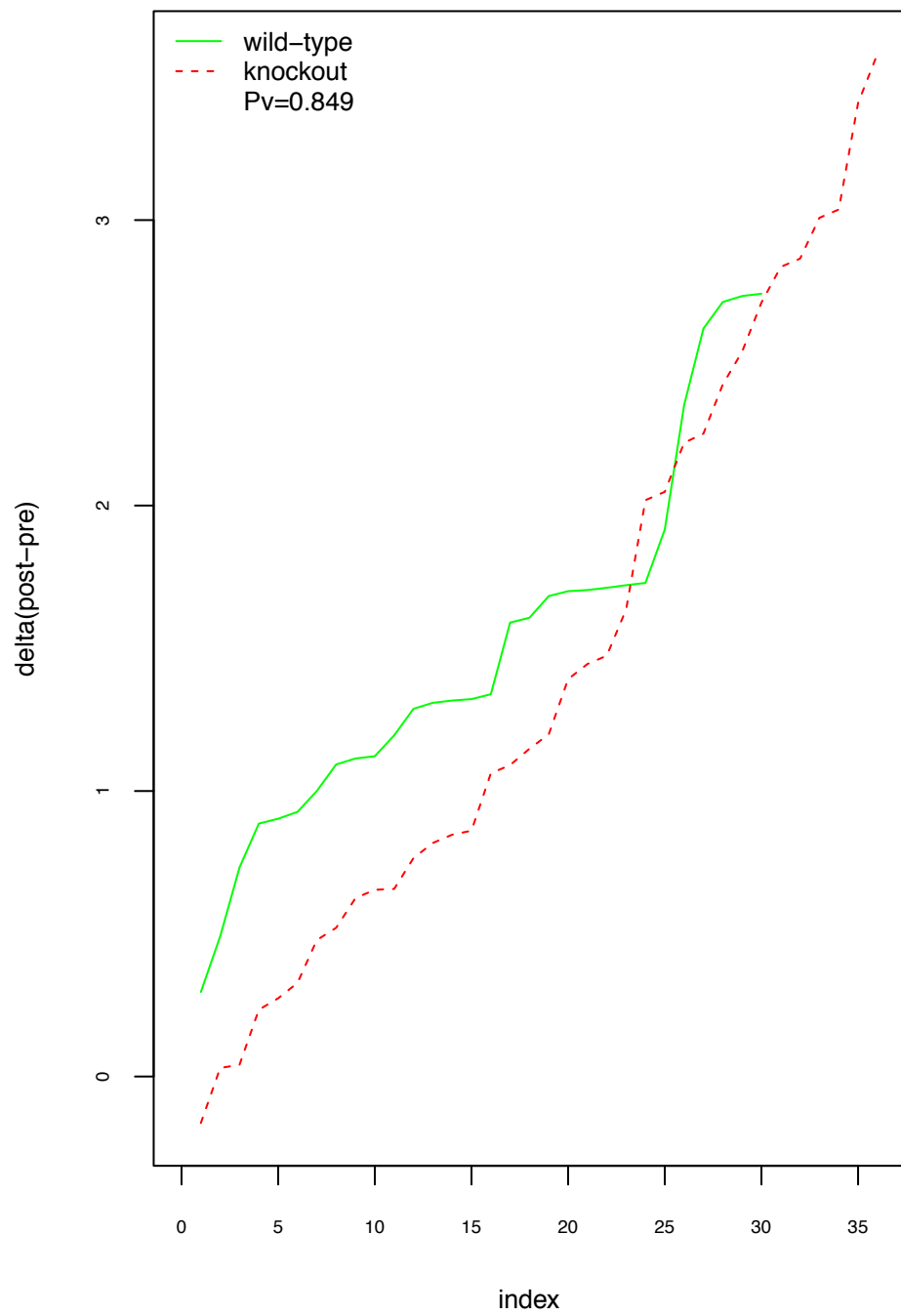
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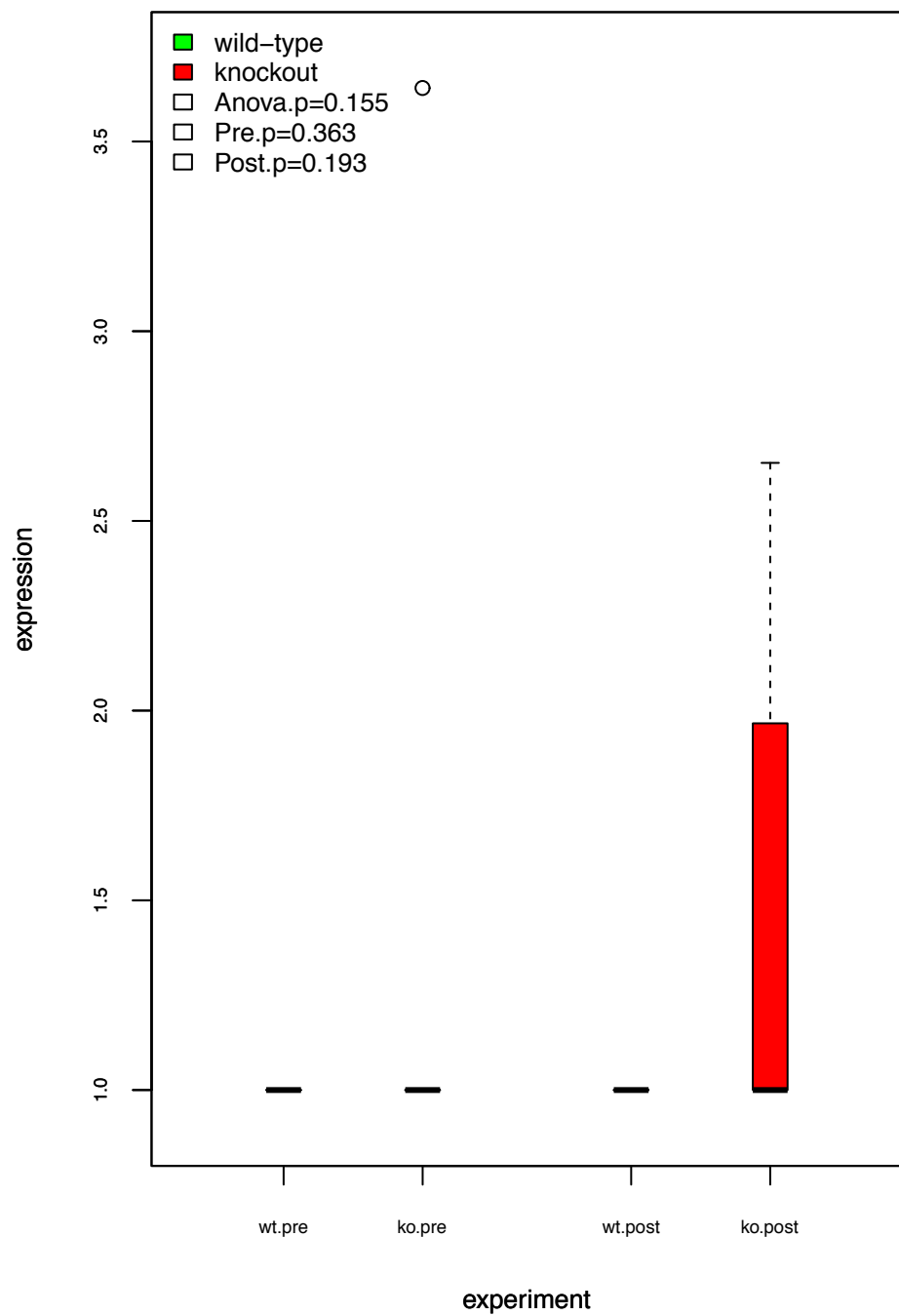
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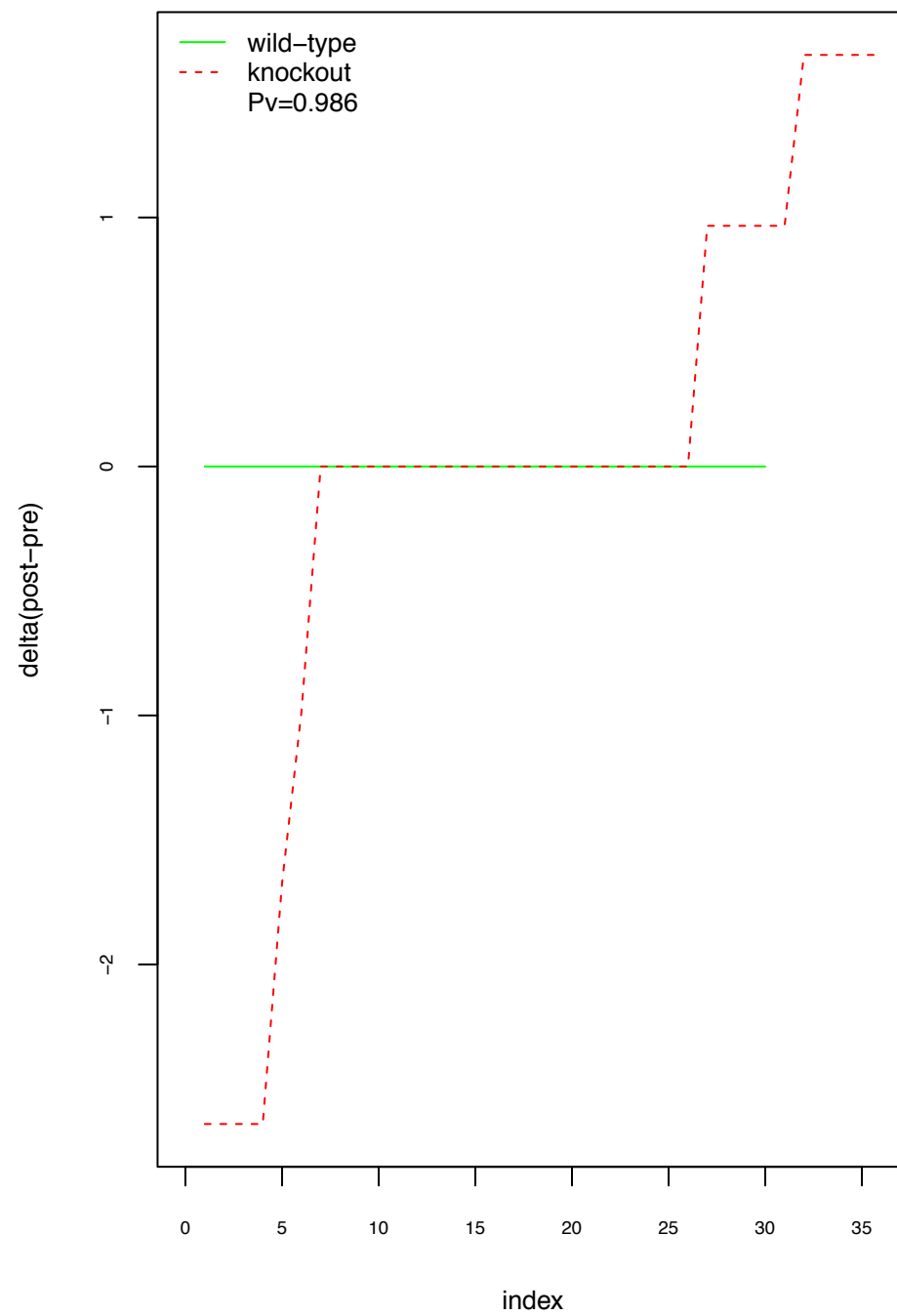
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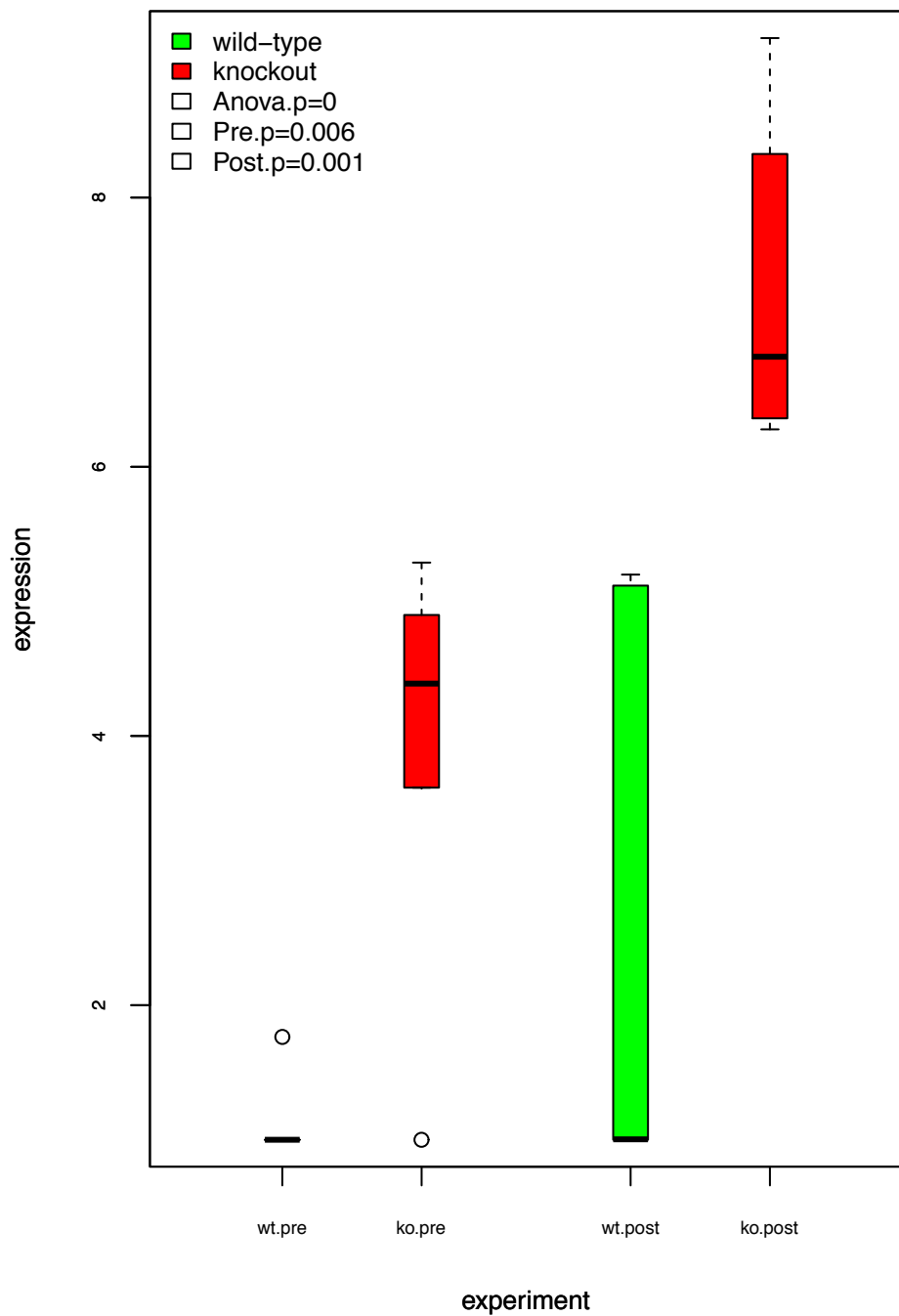
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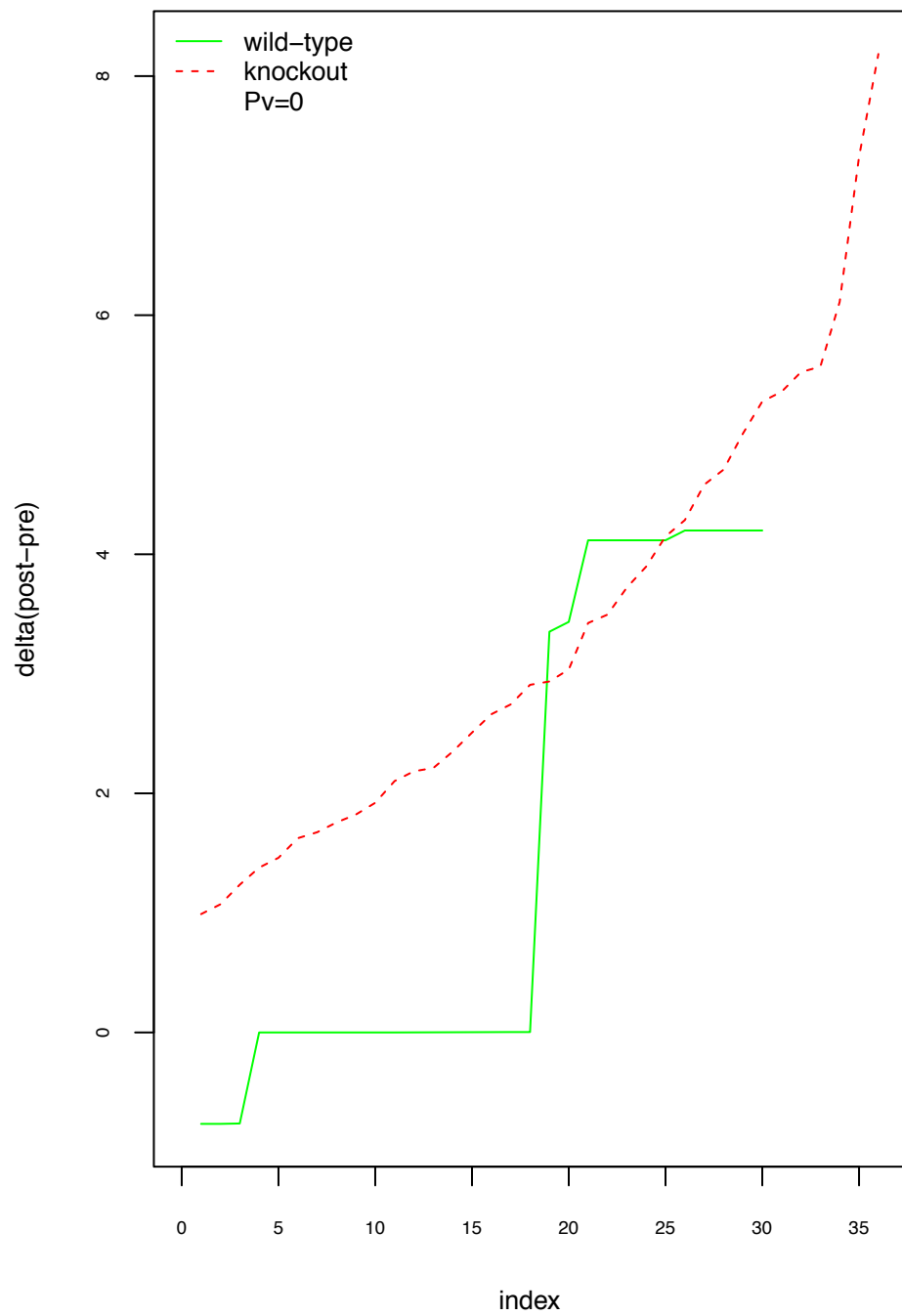
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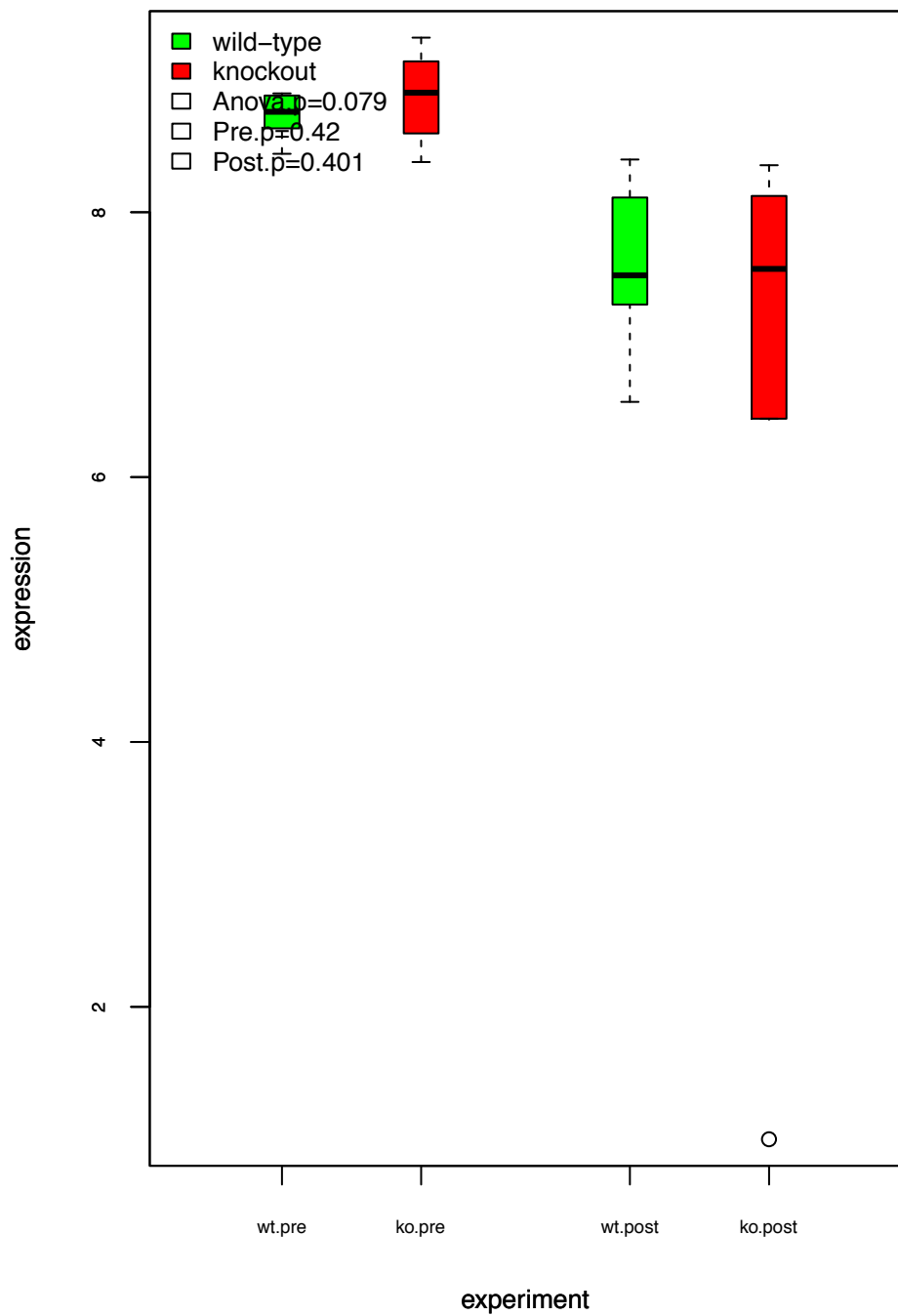
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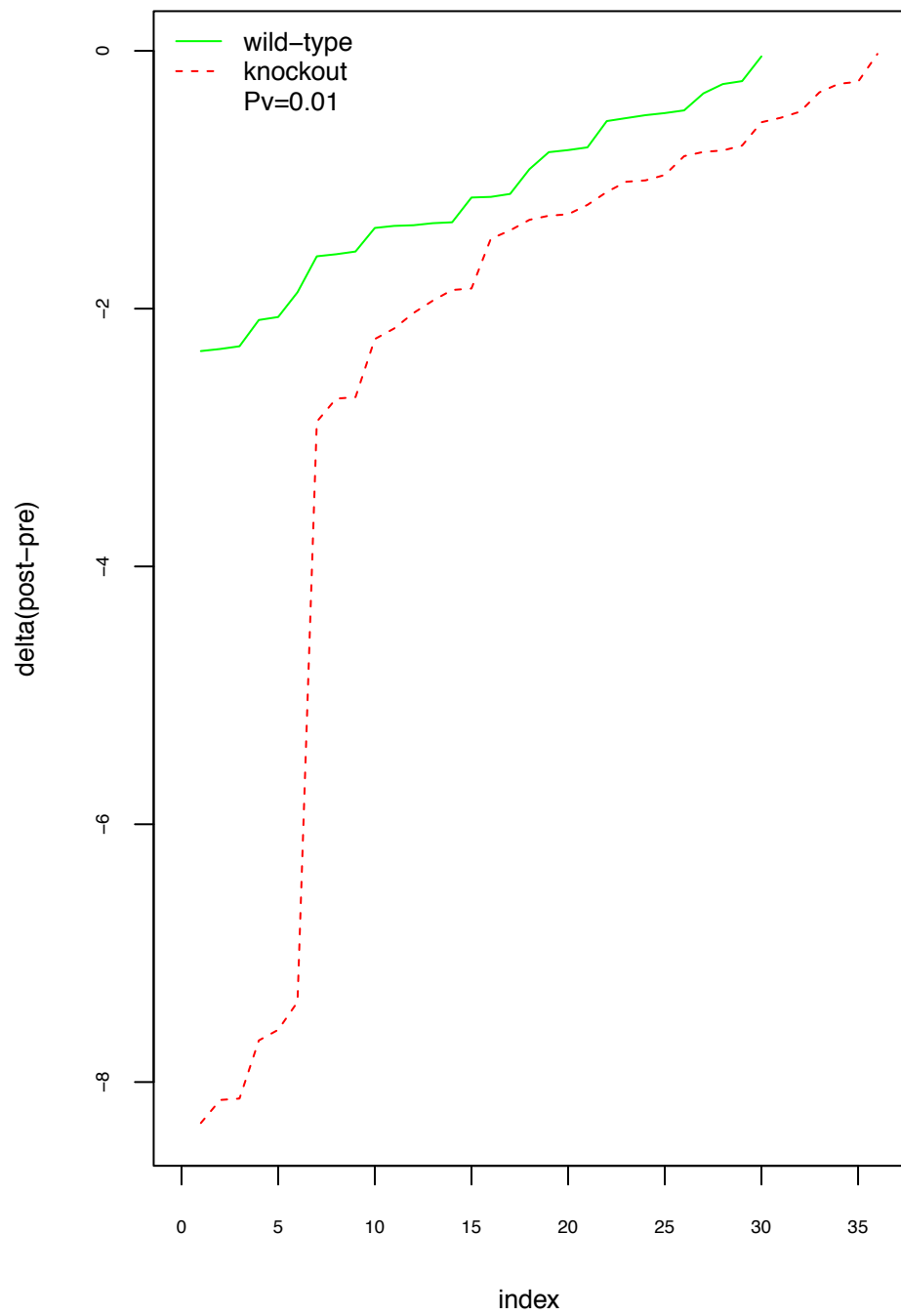
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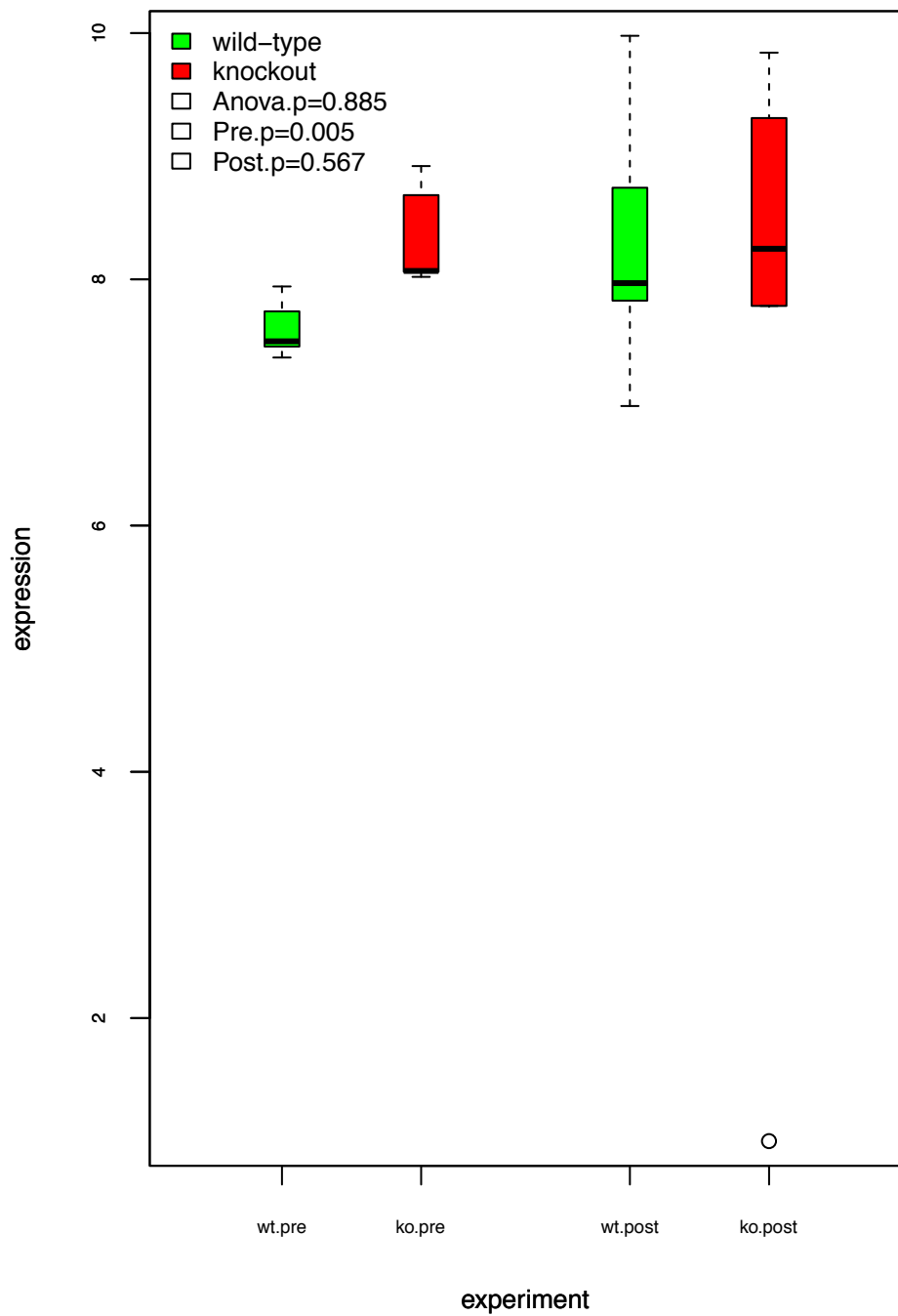
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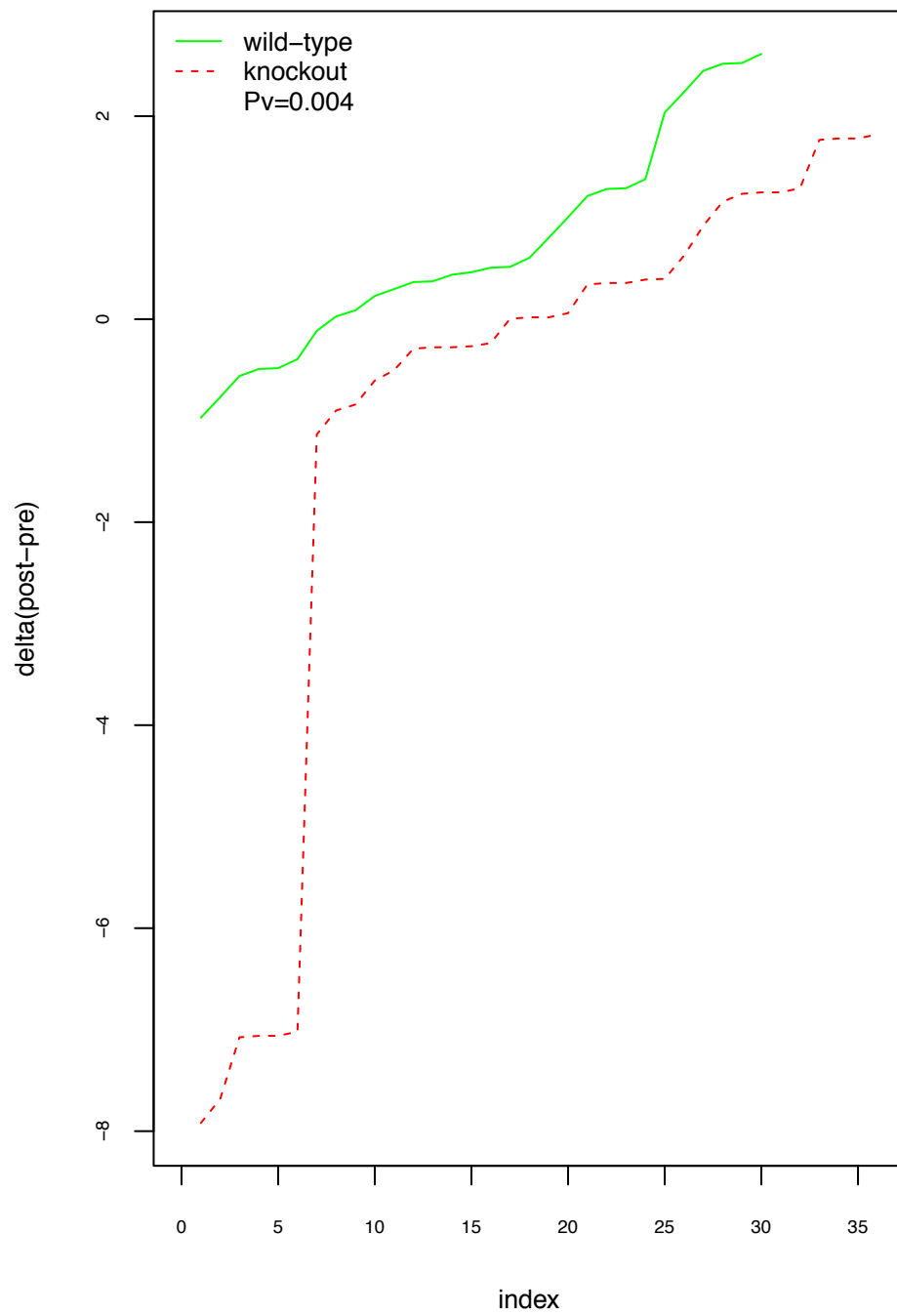
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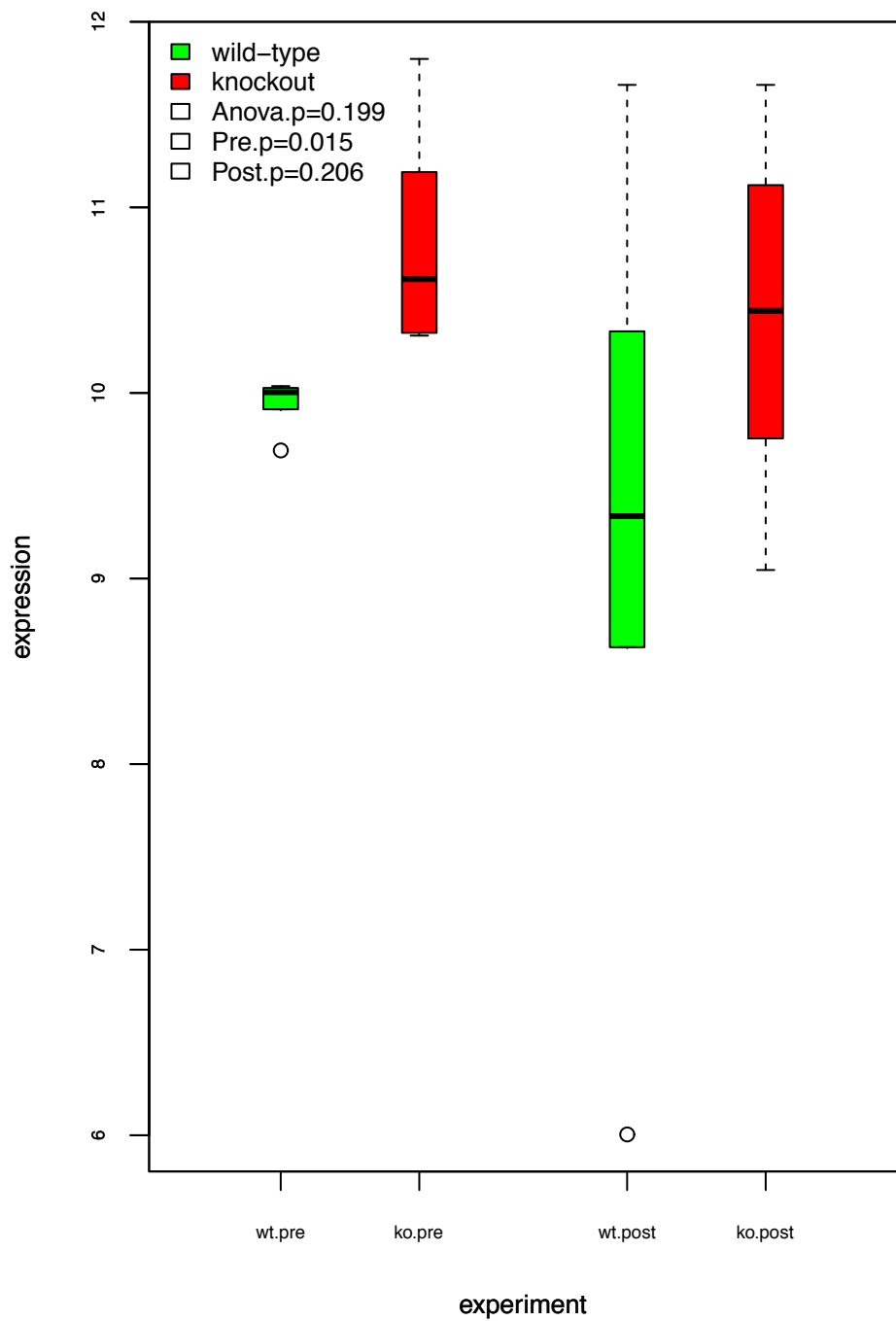
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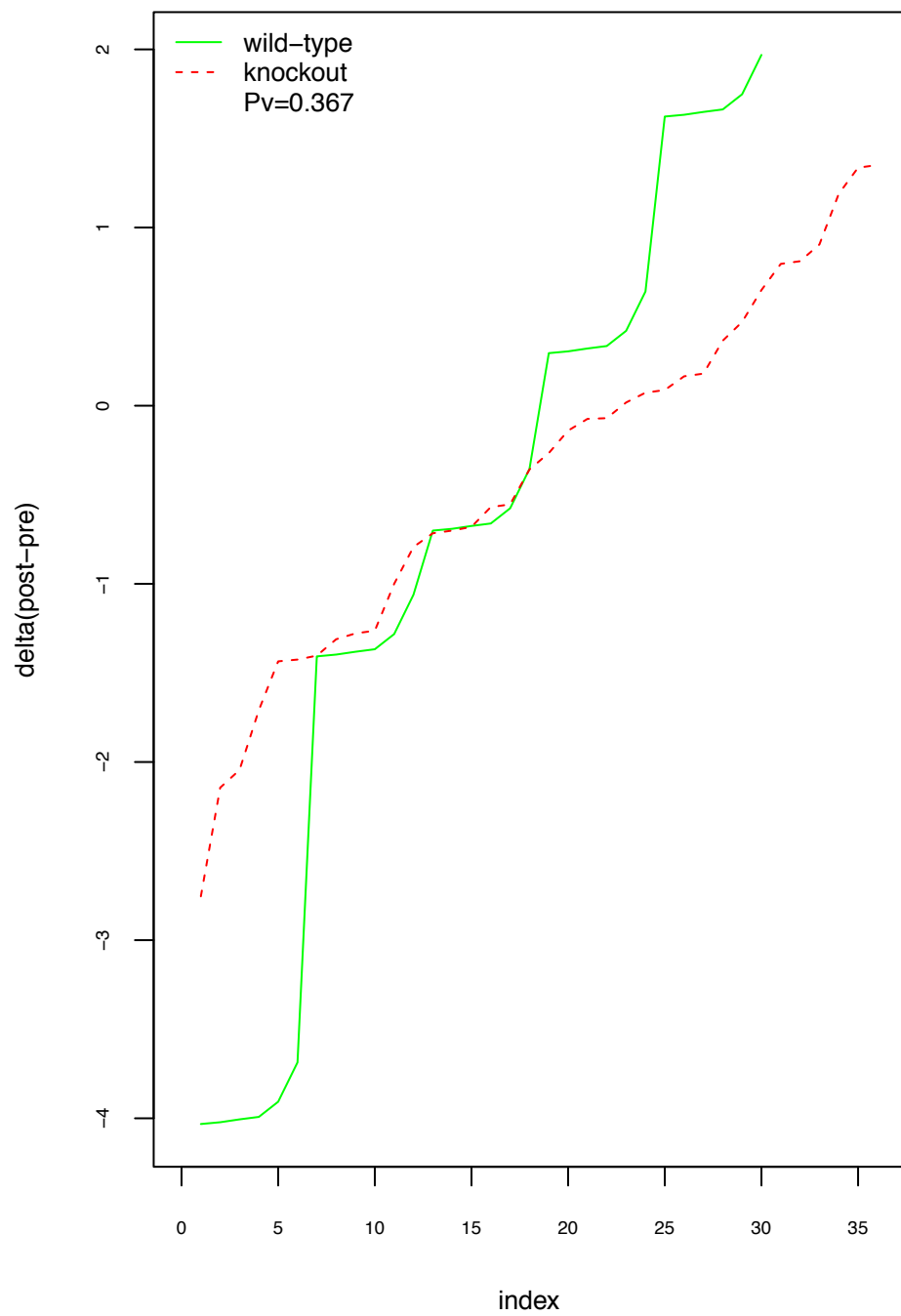
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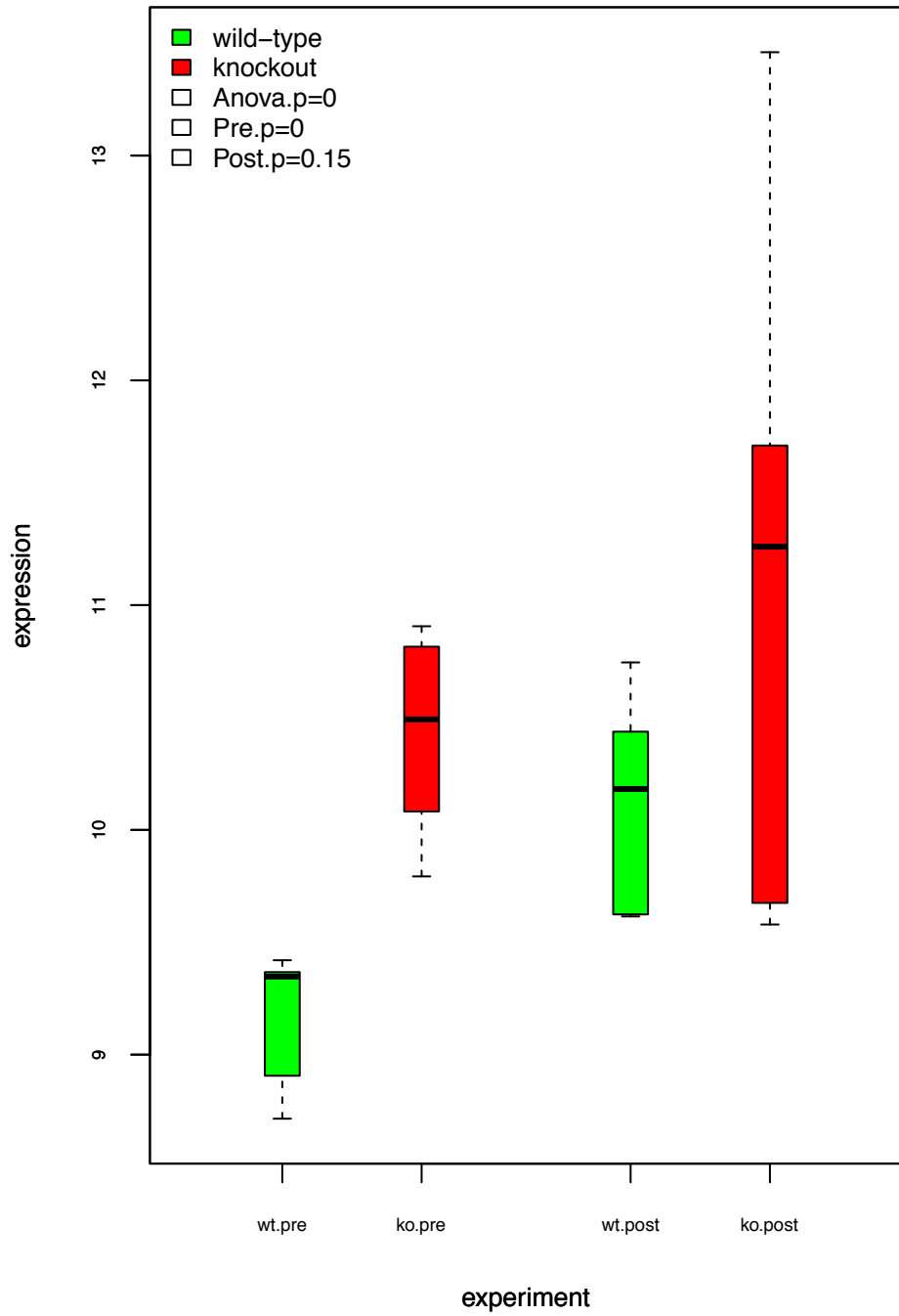
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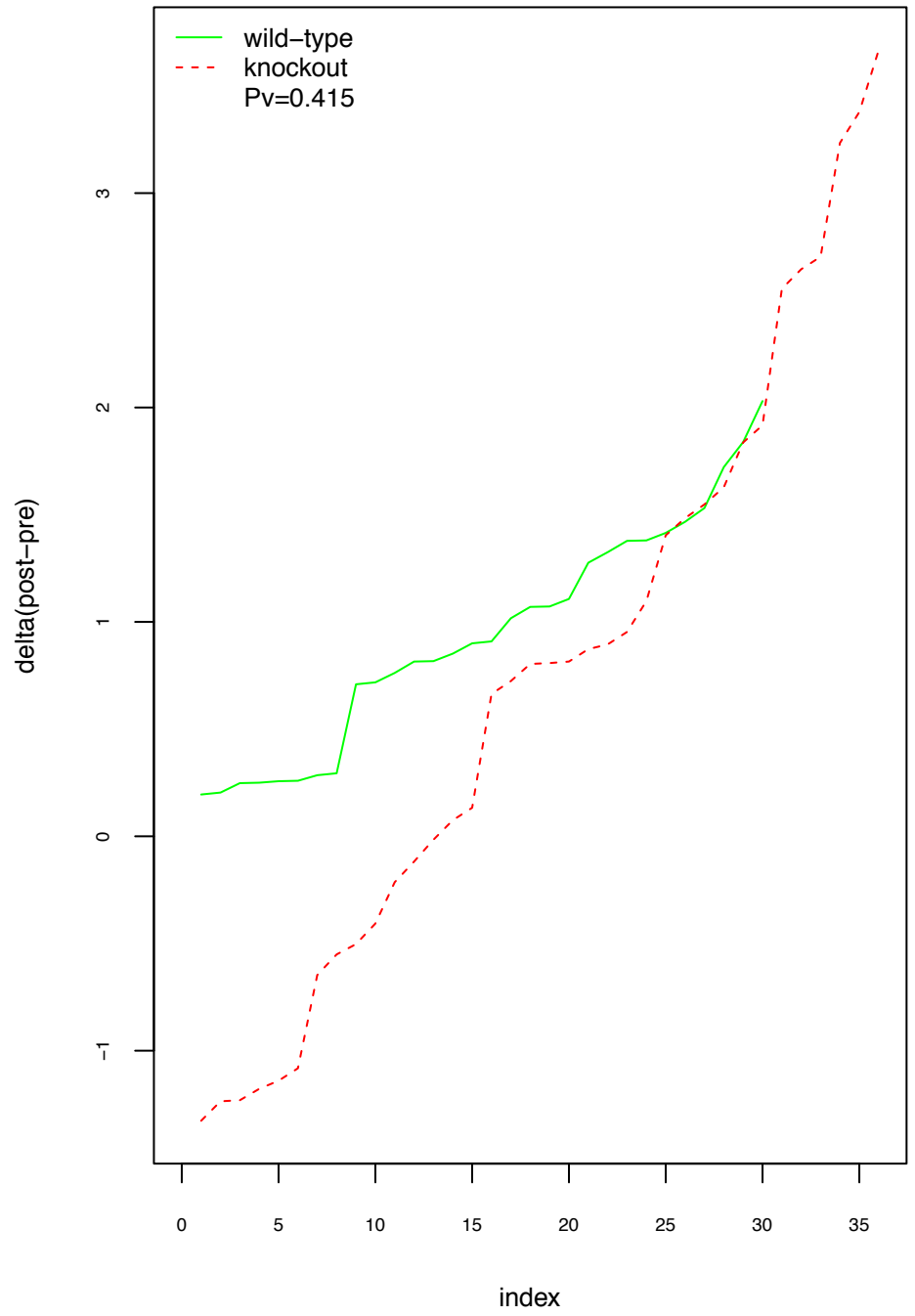
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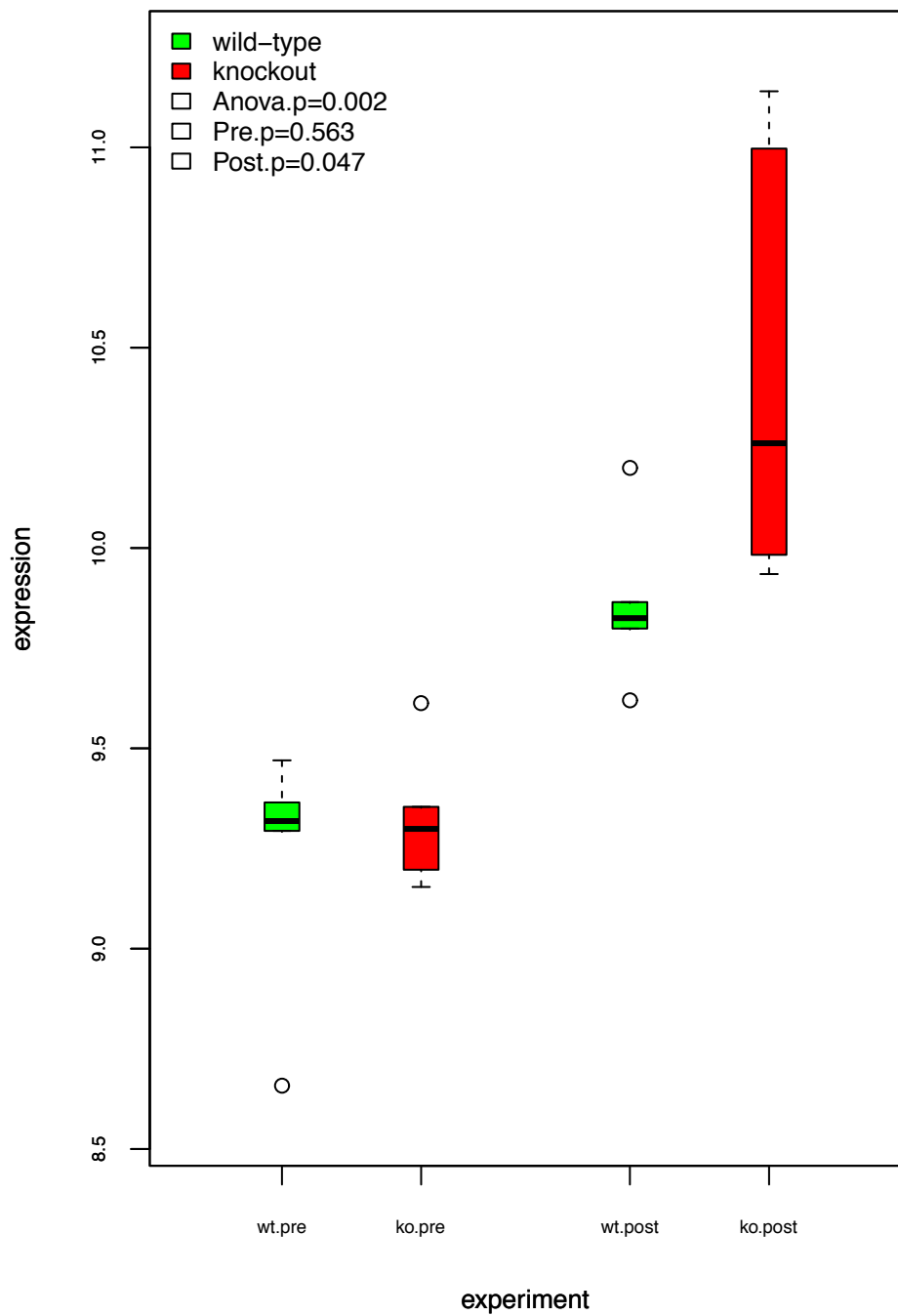
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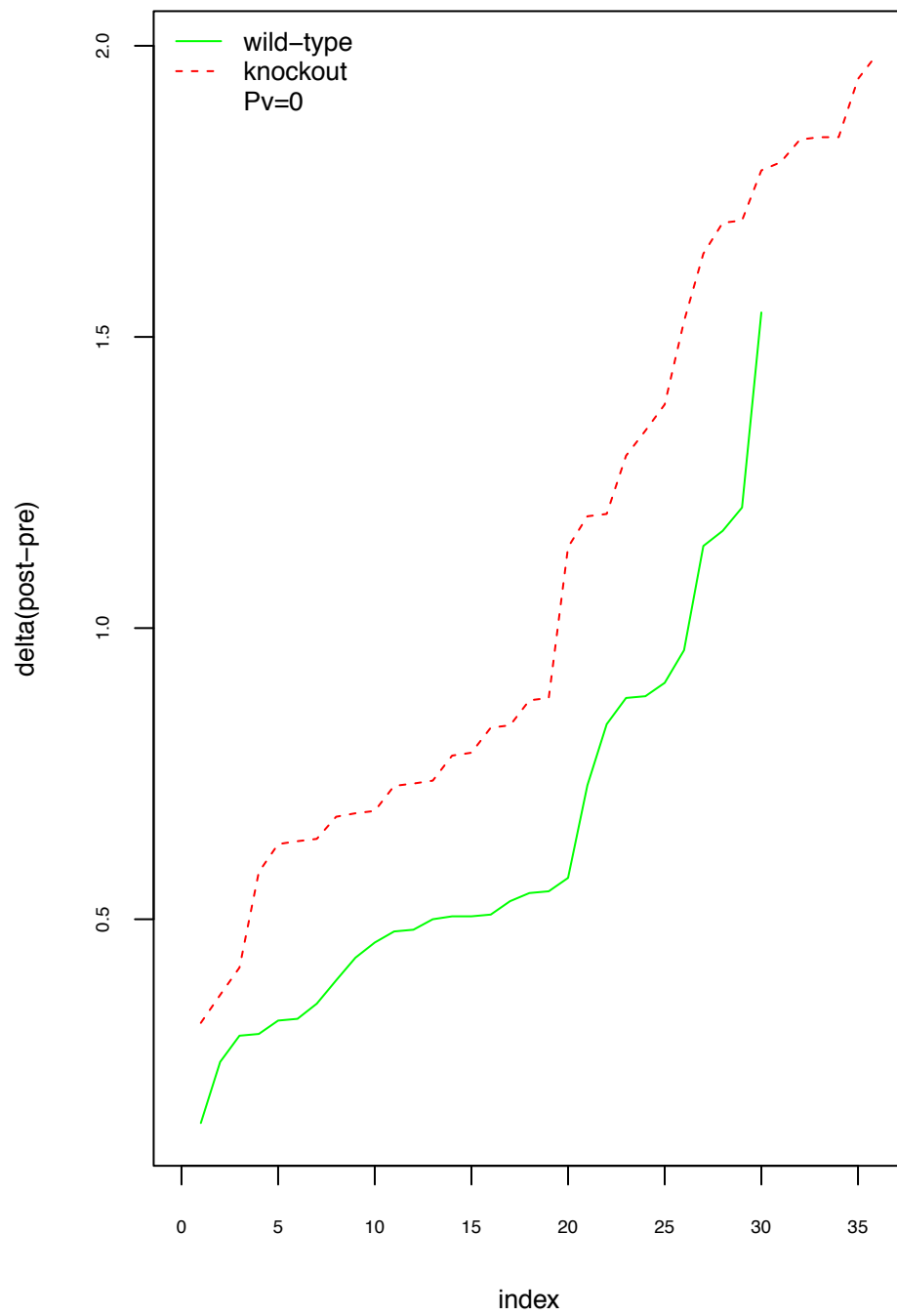
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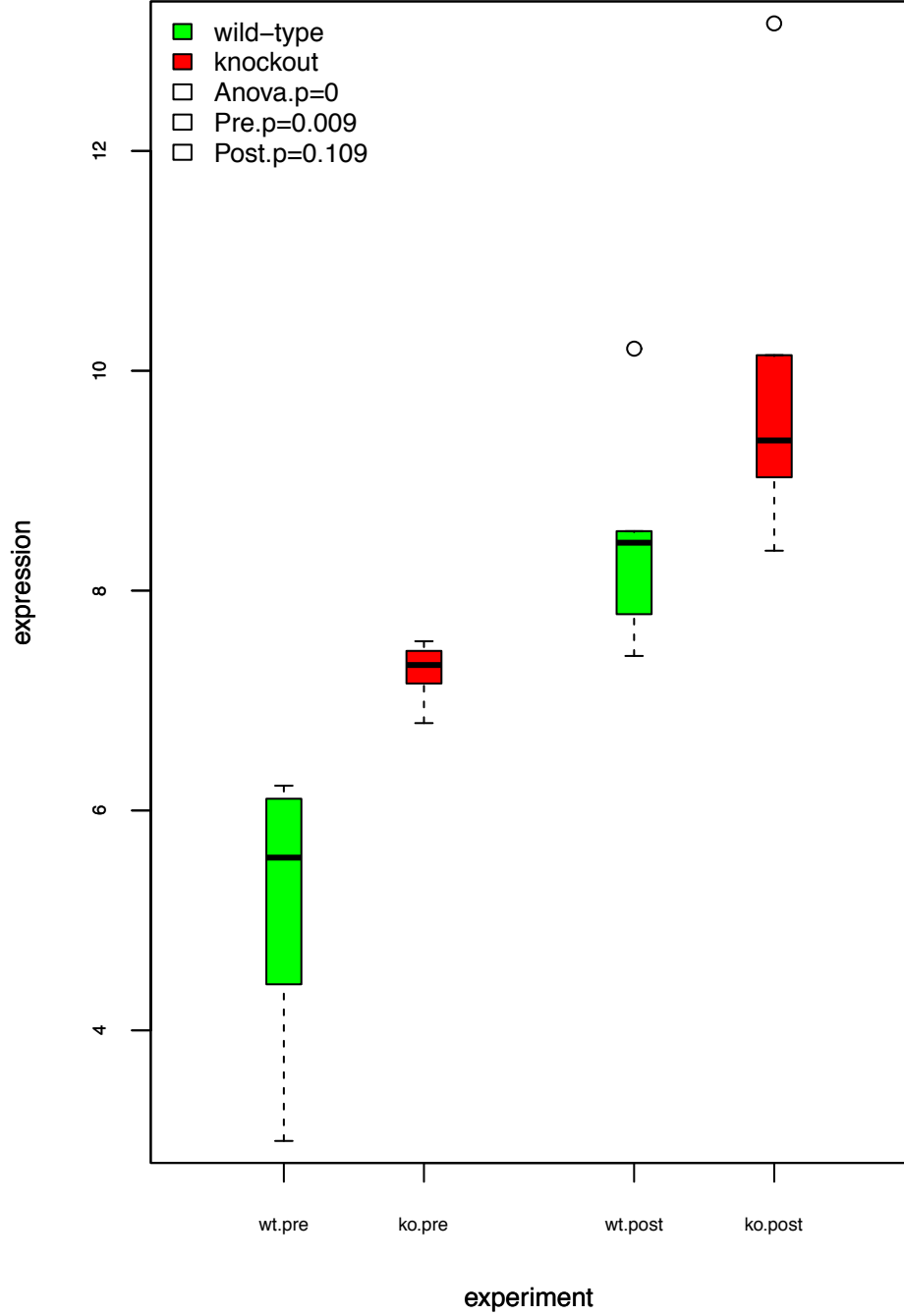
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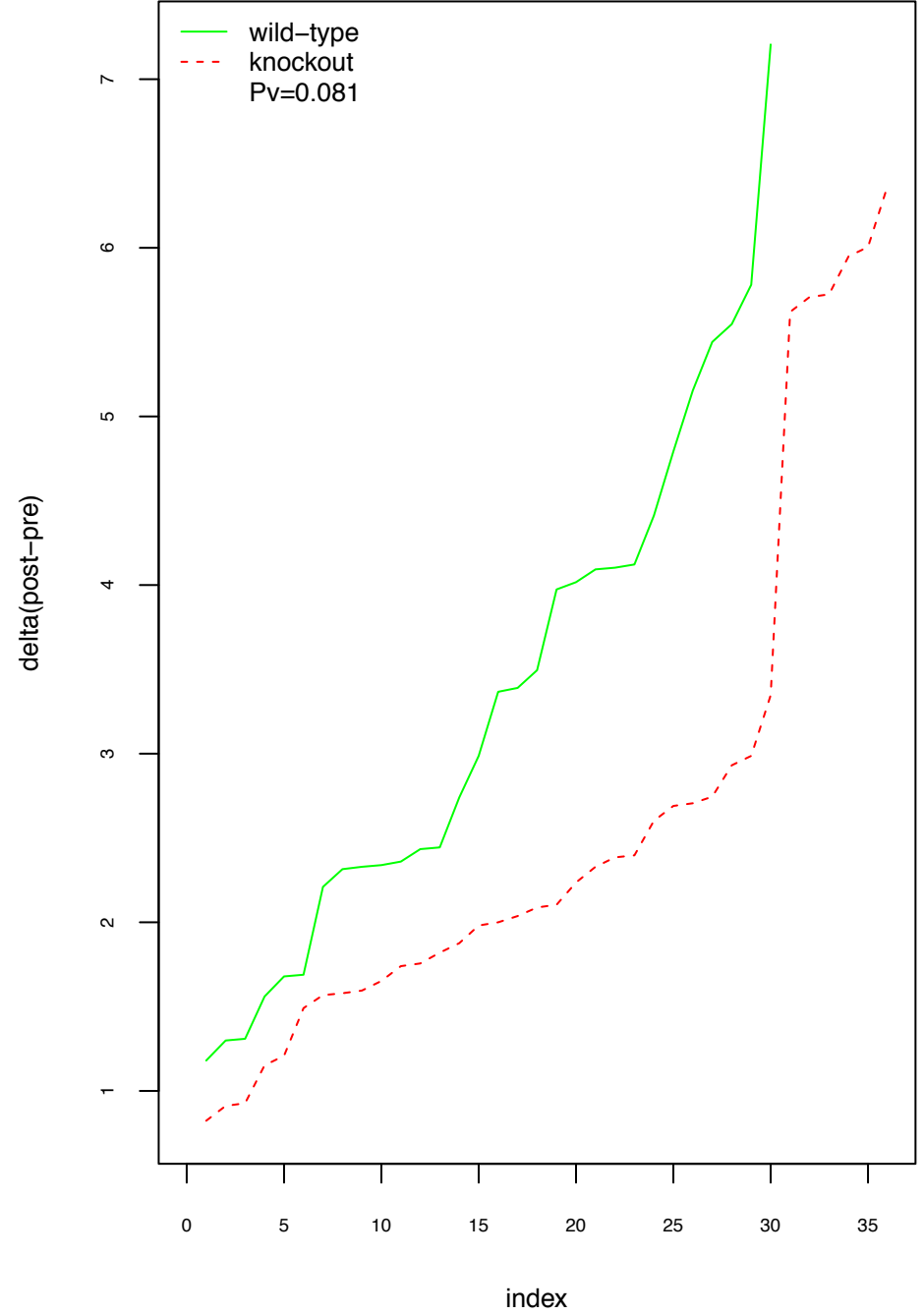
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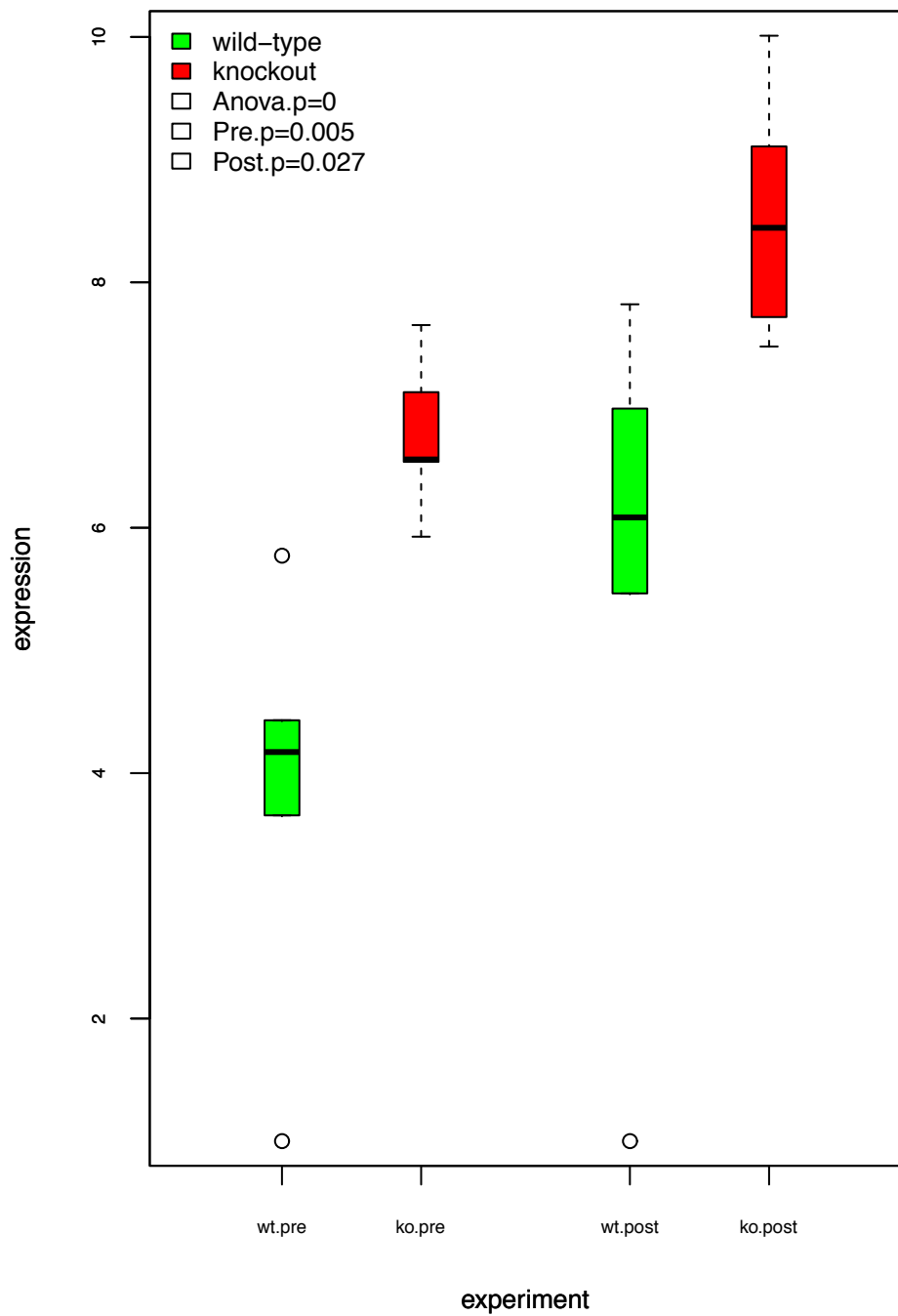
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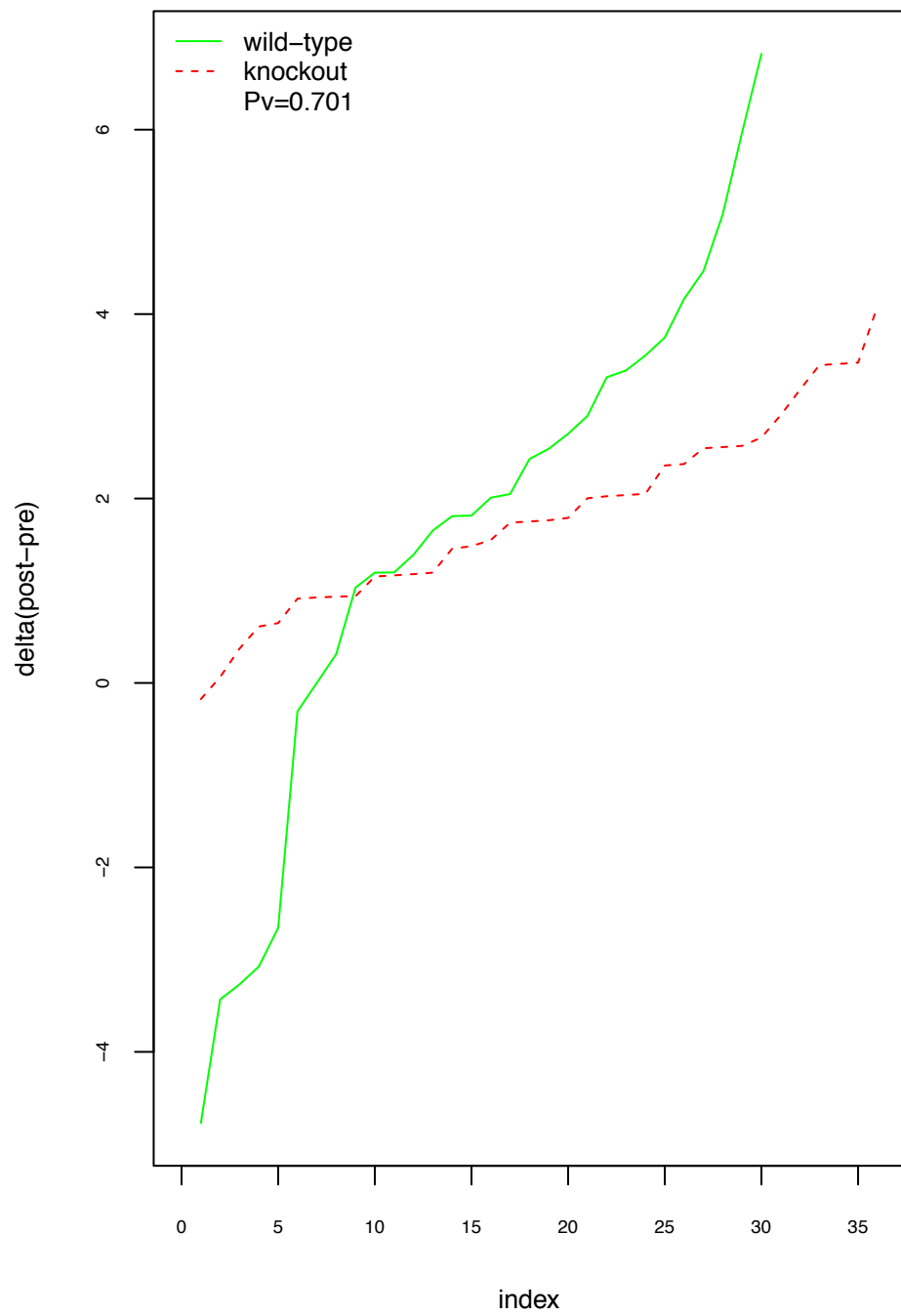
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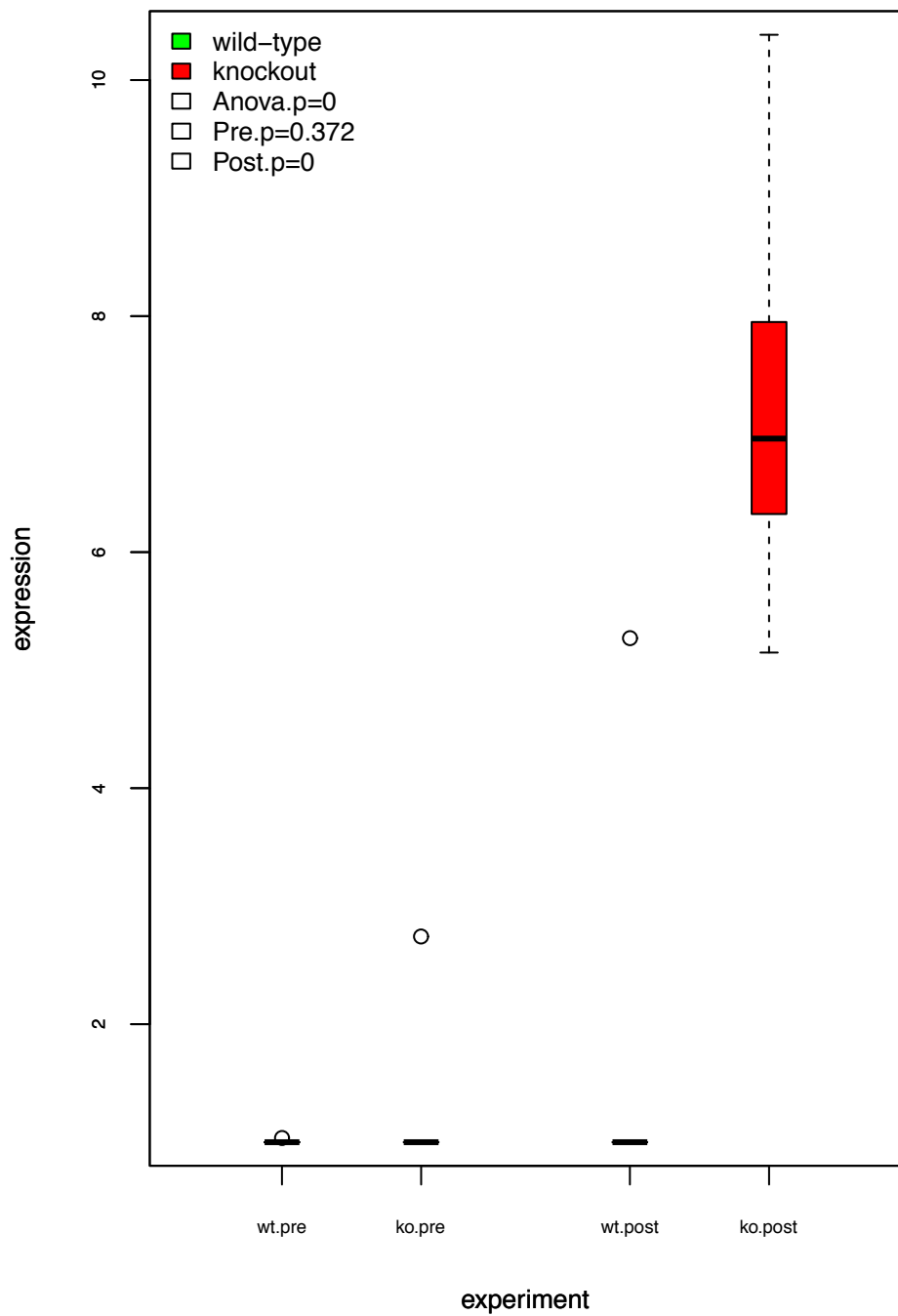
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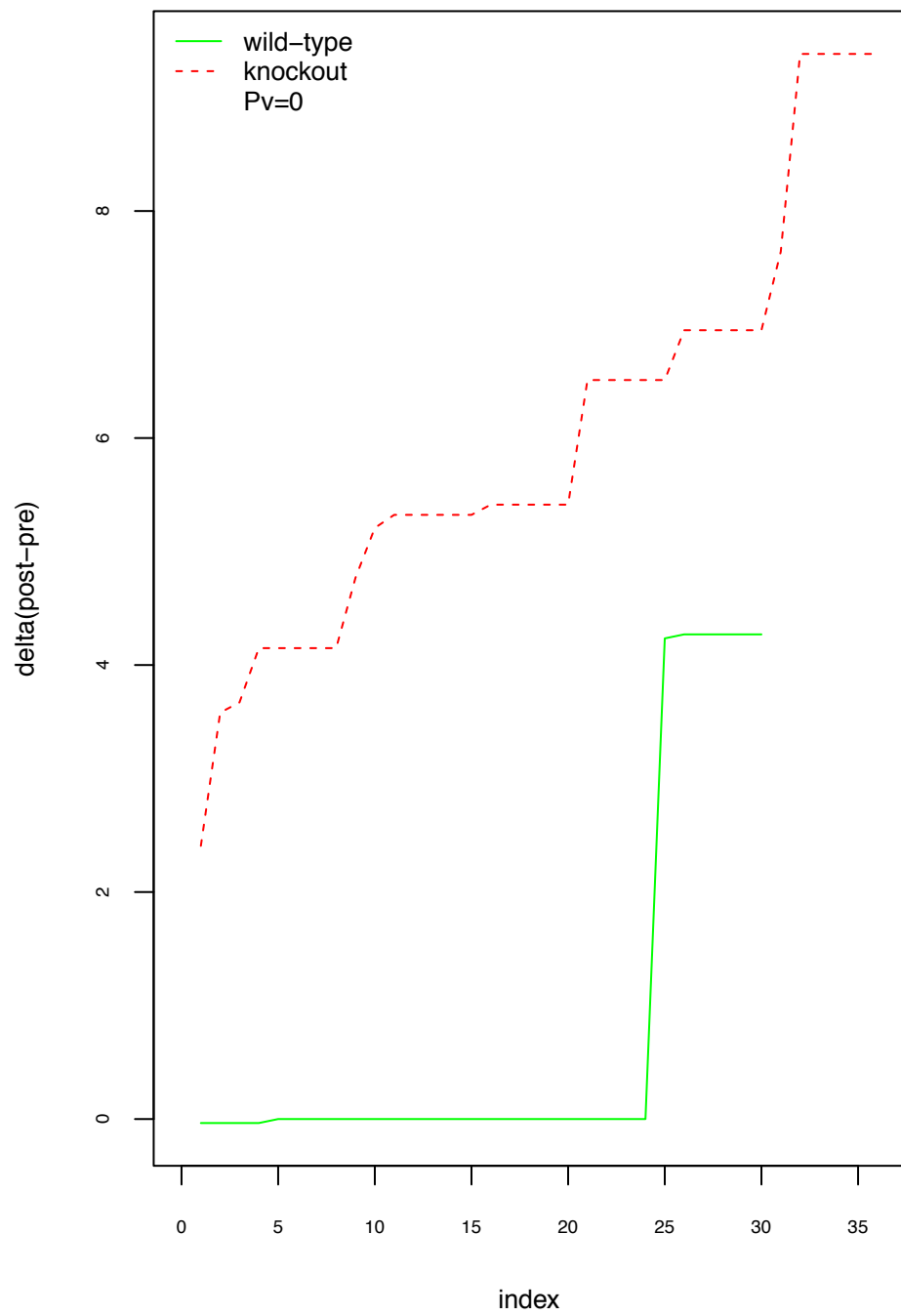
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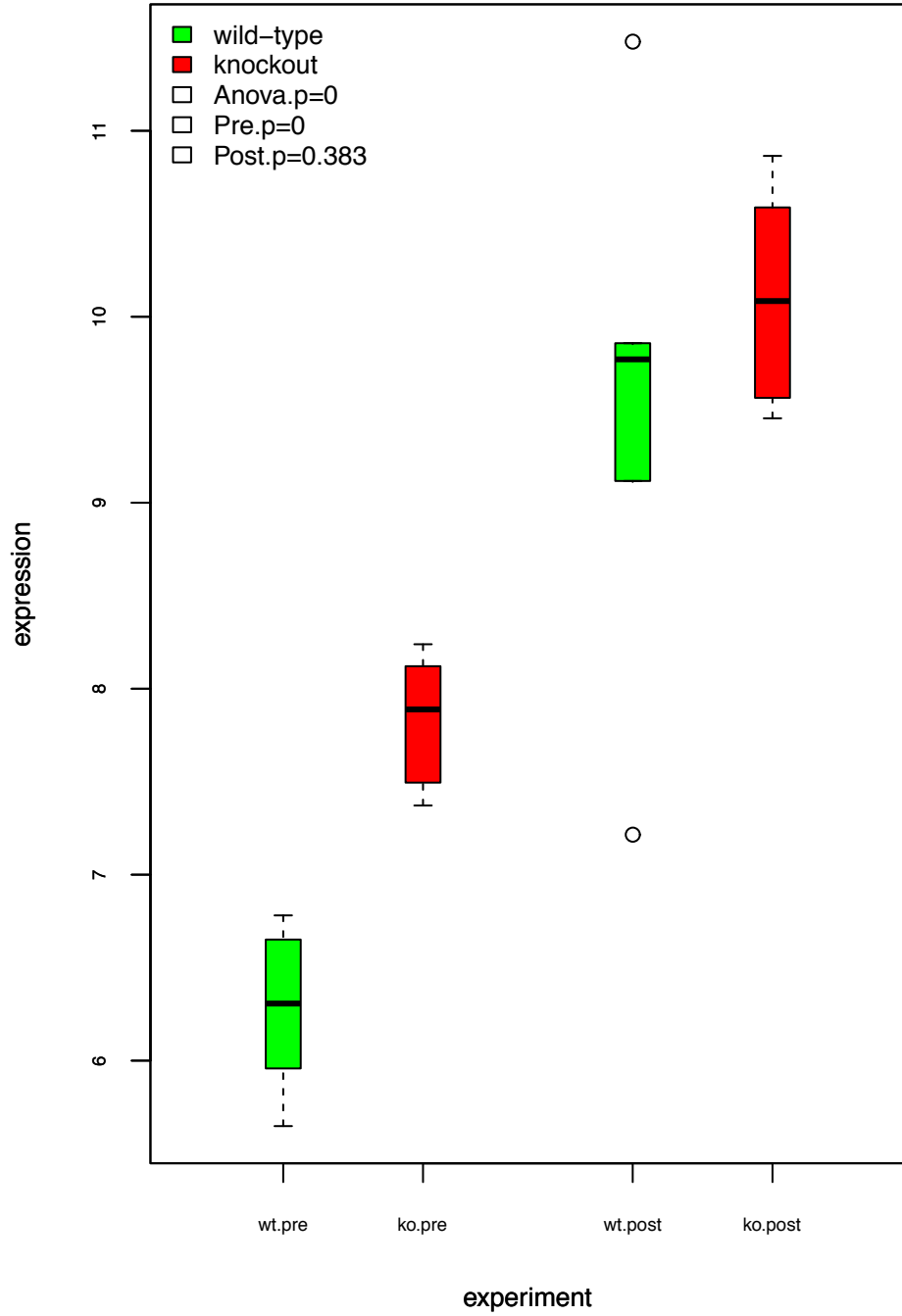
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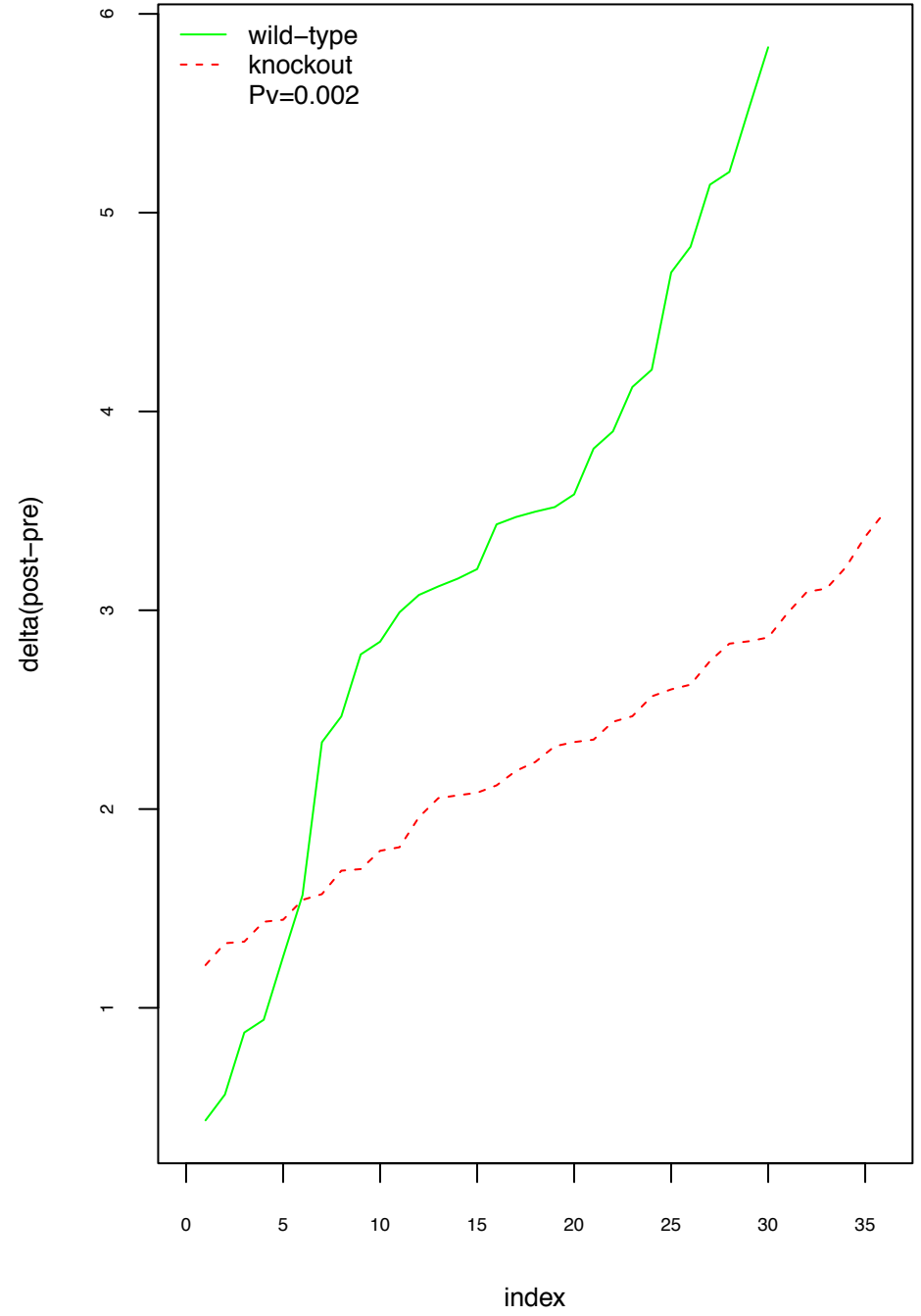
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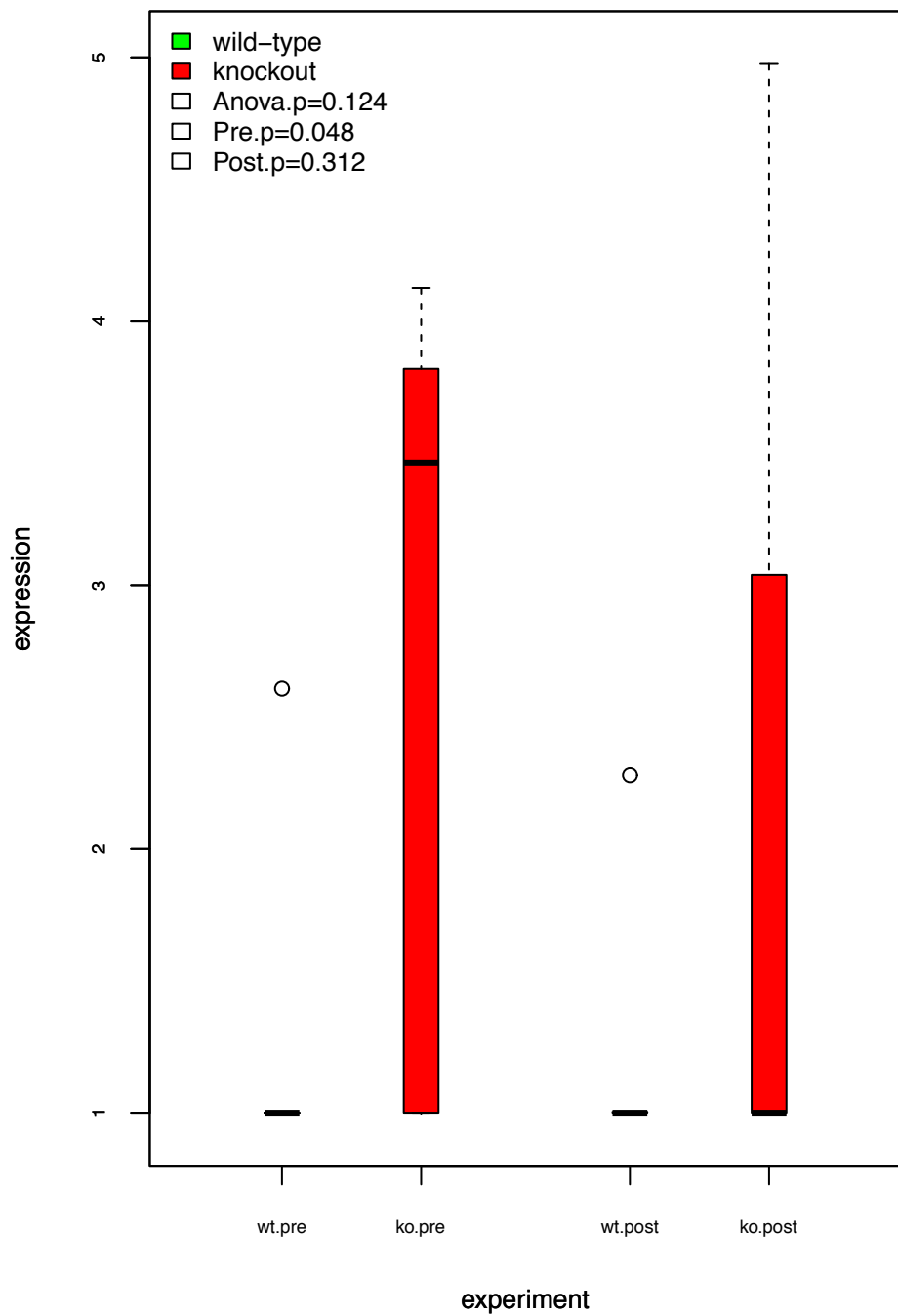
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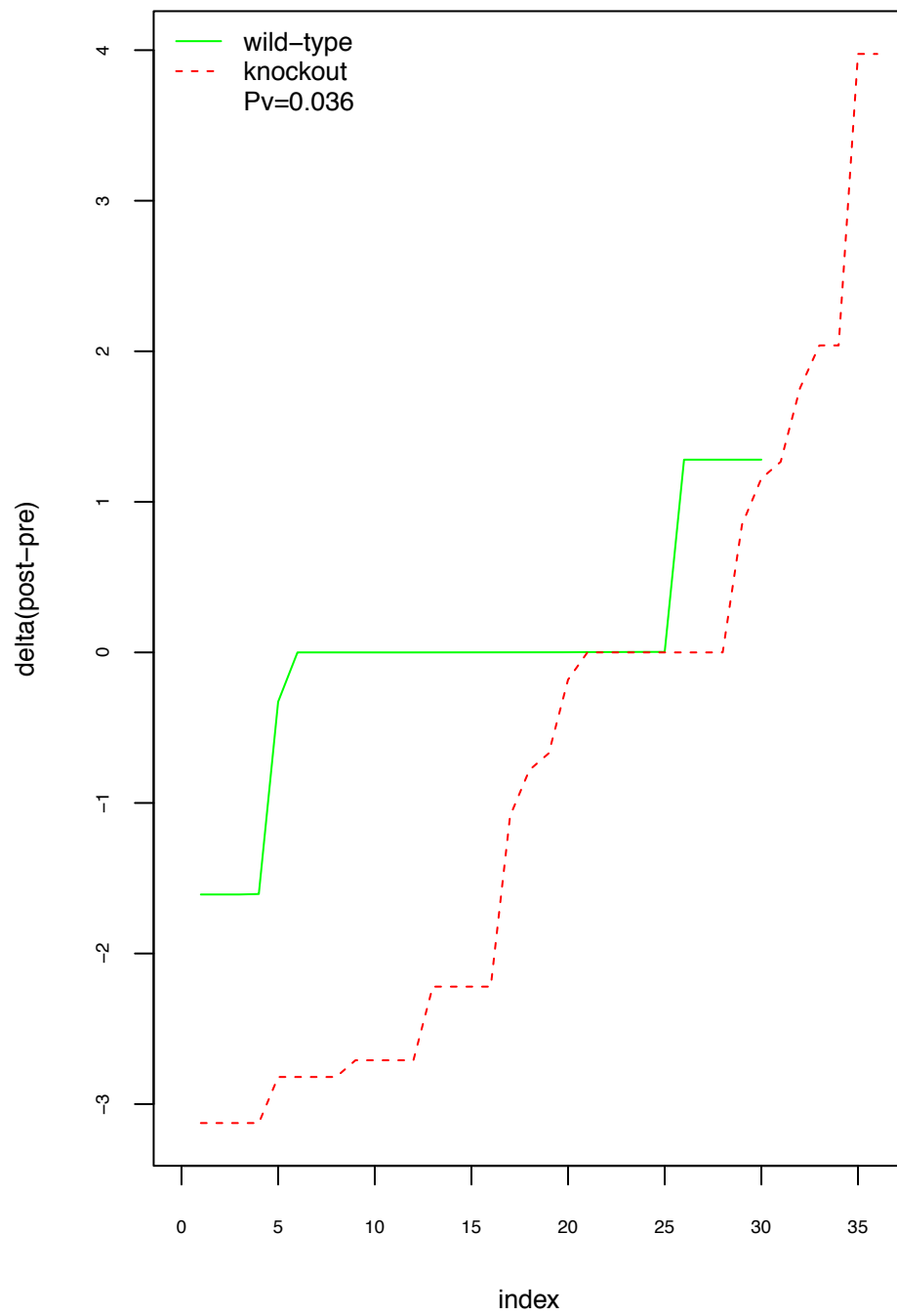
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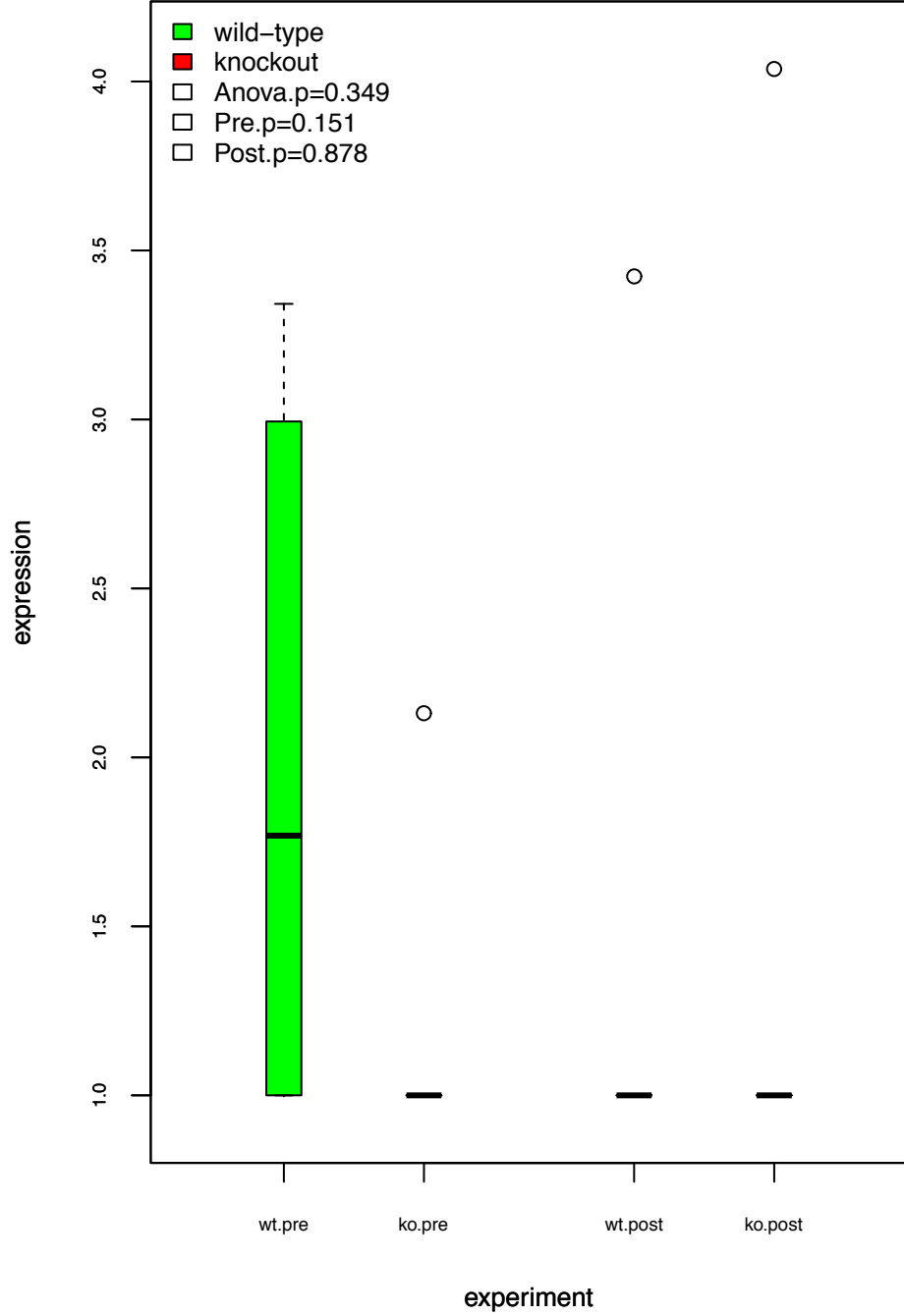
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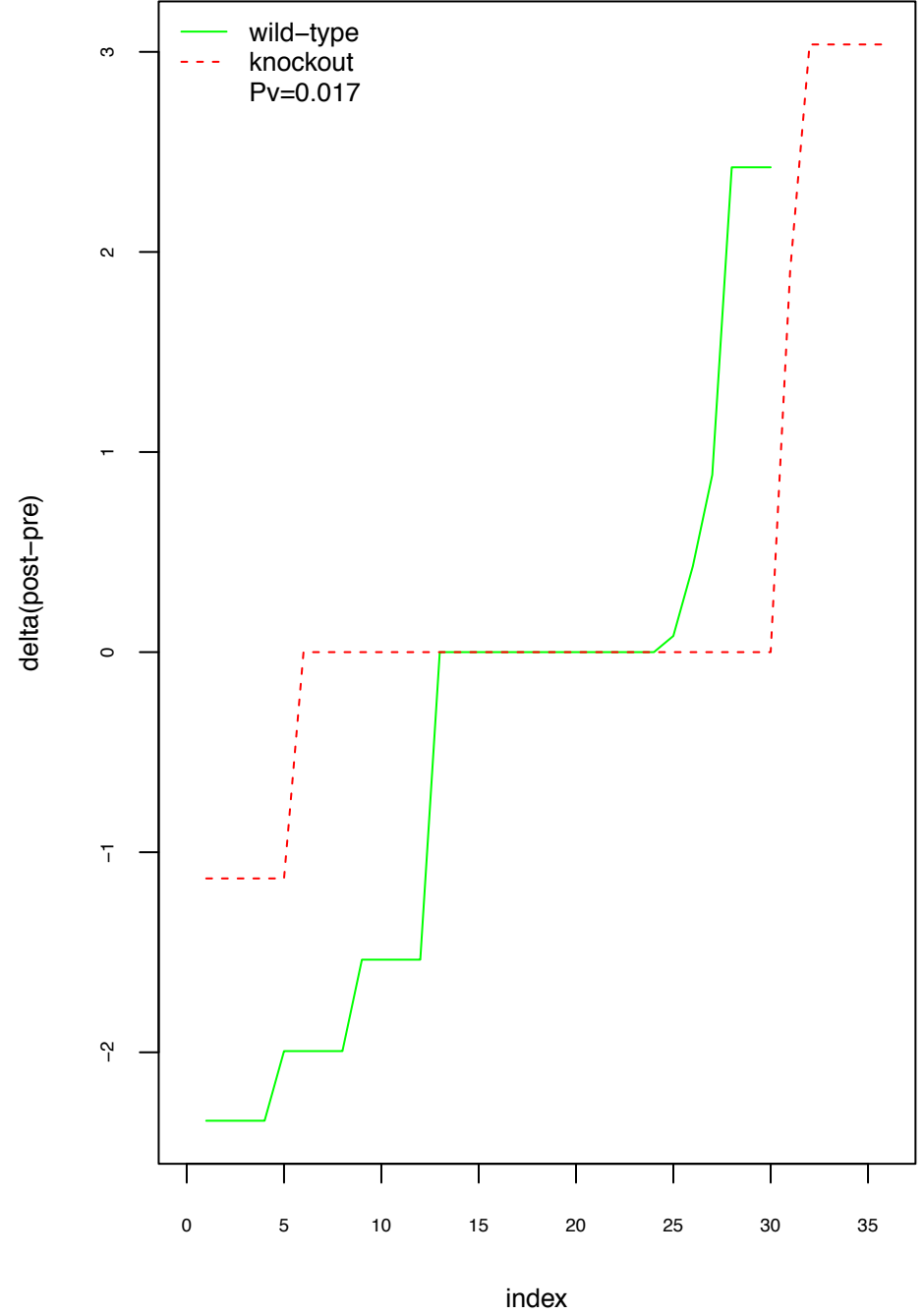
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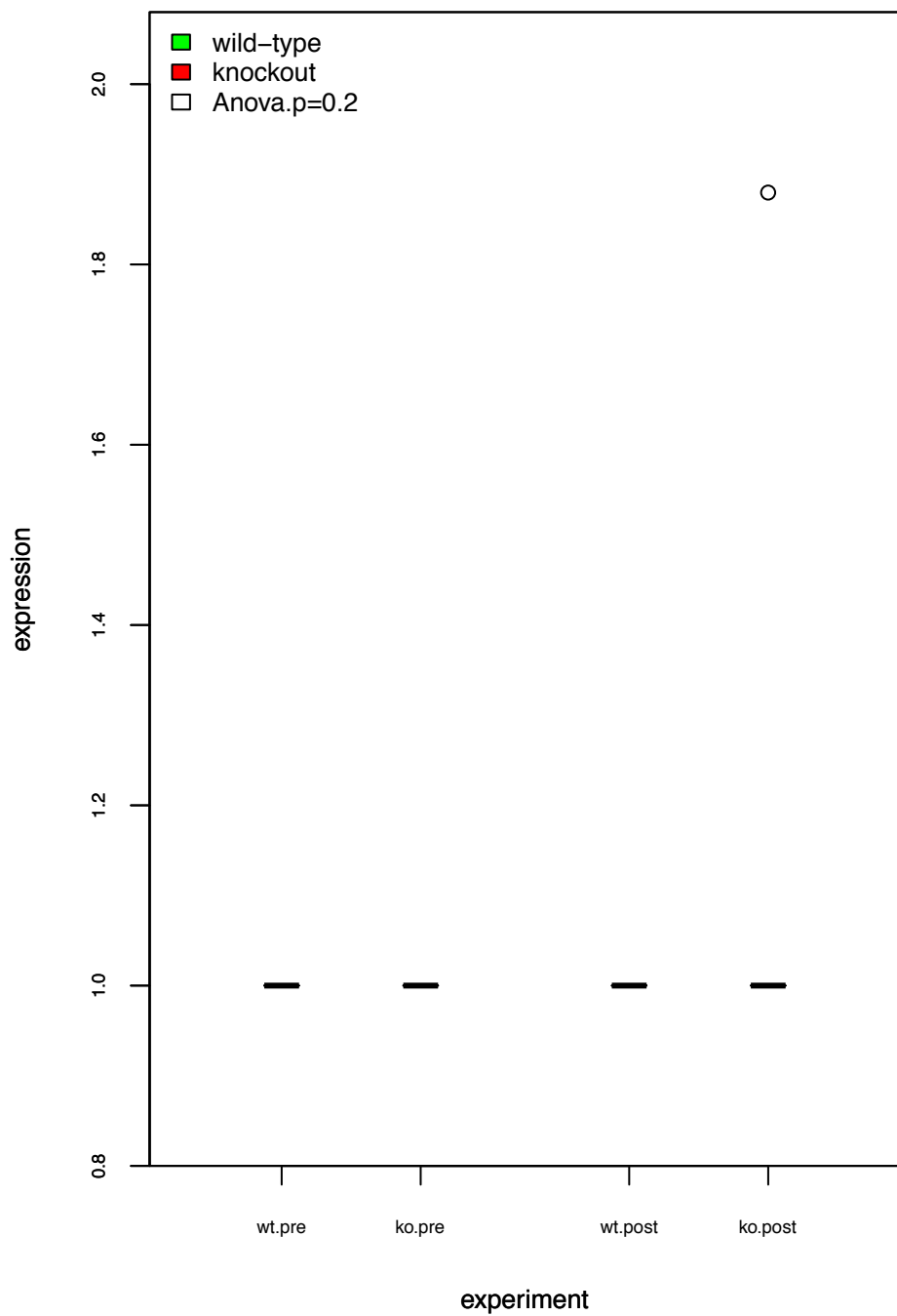
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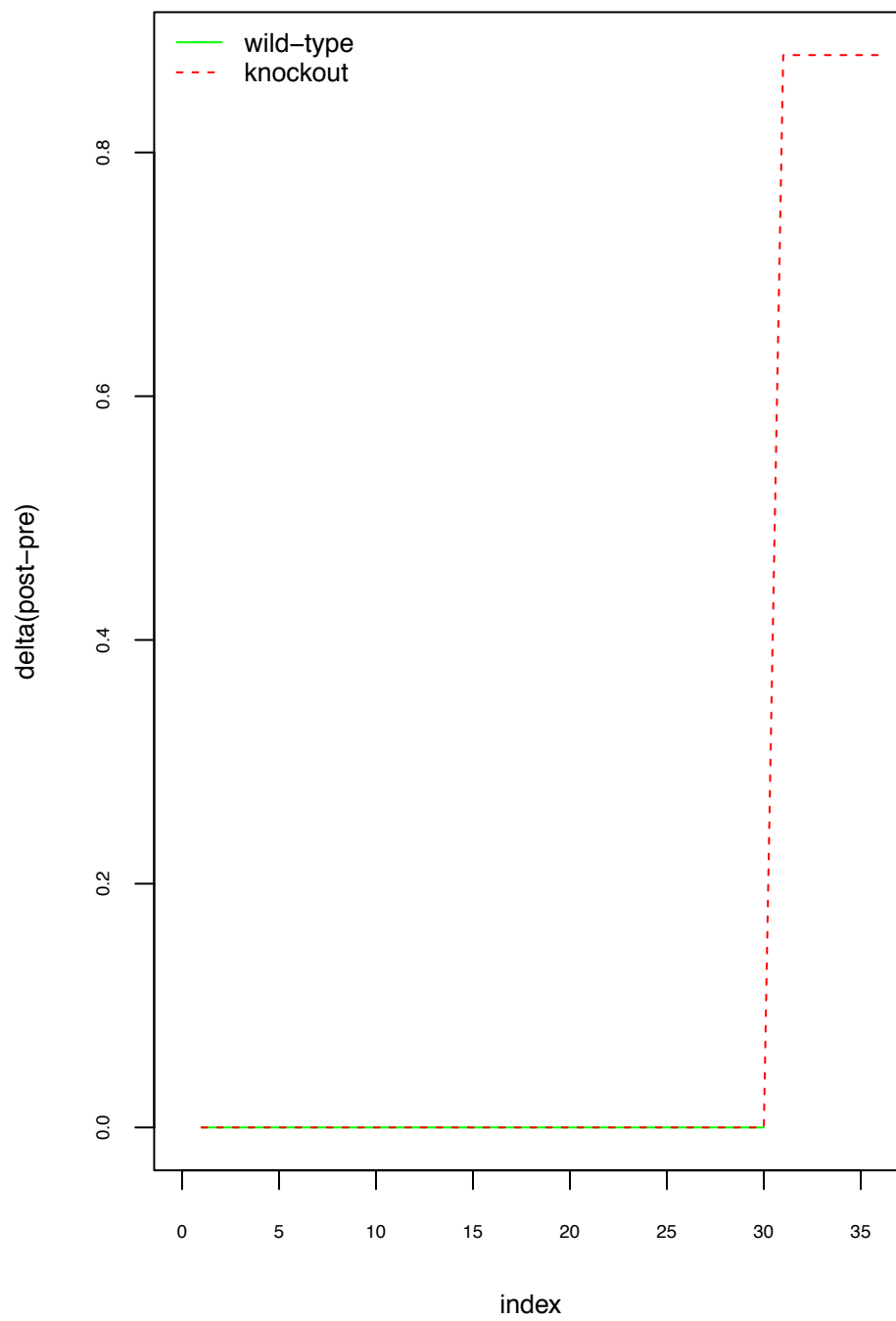
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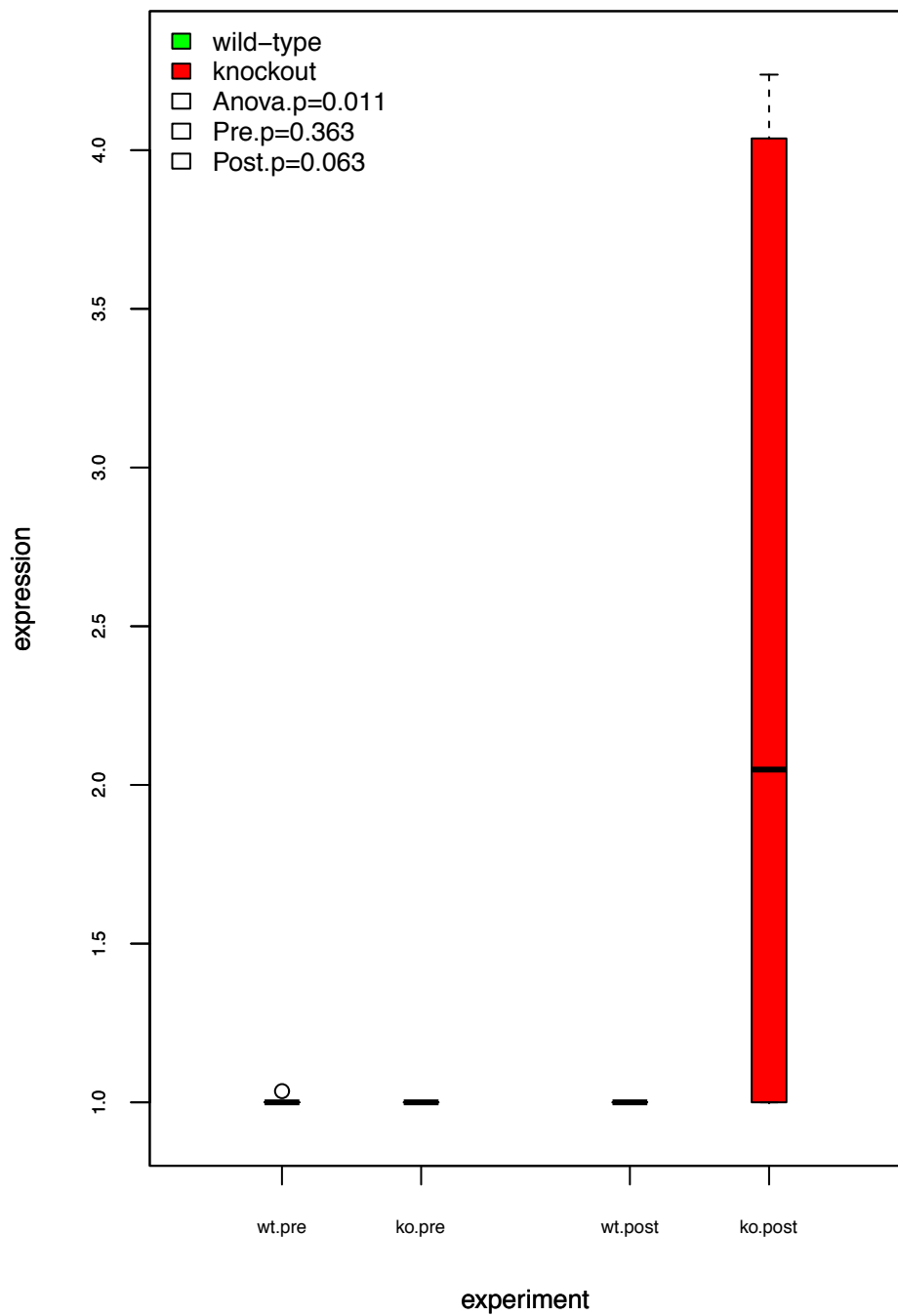
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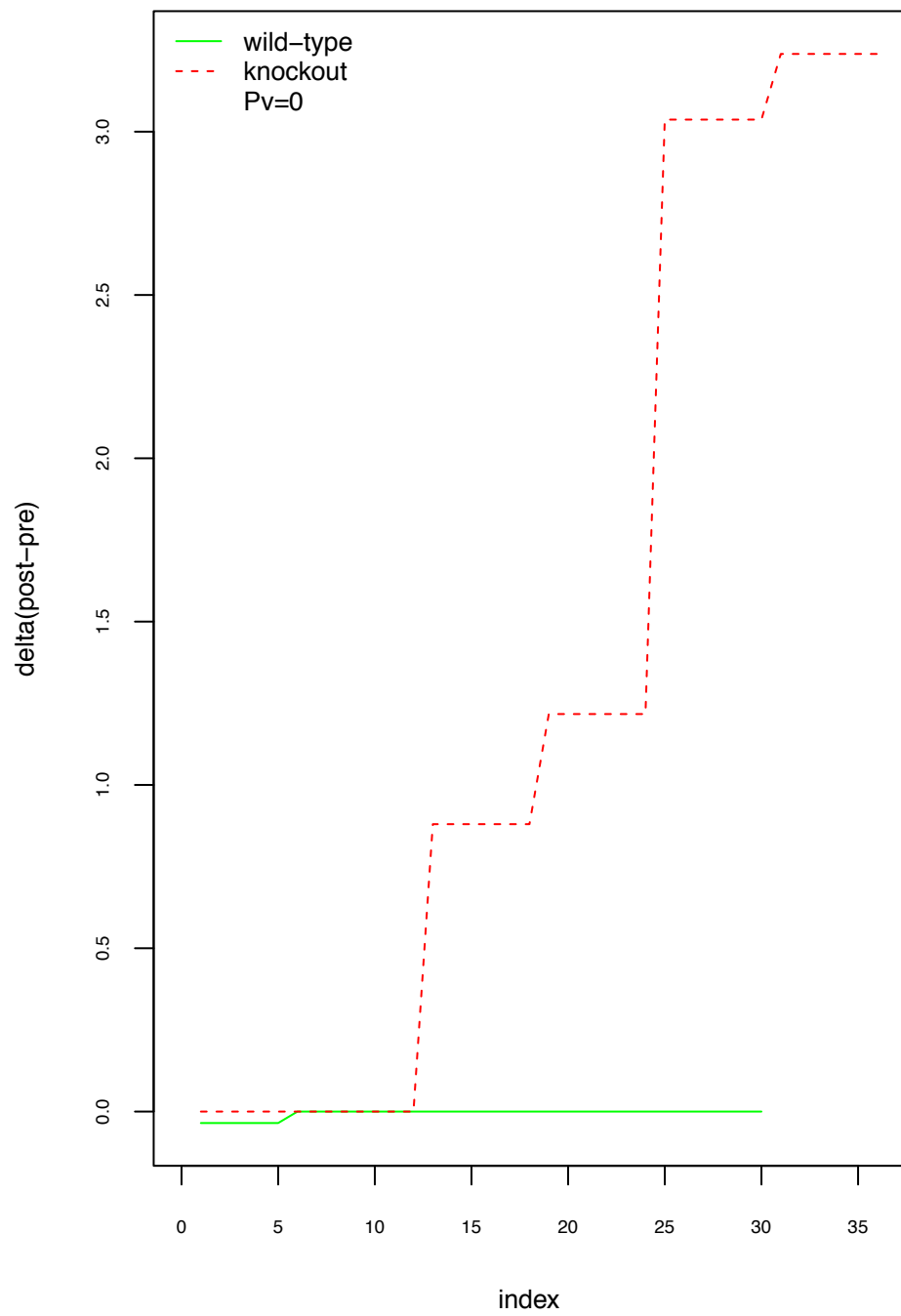
Wnt3



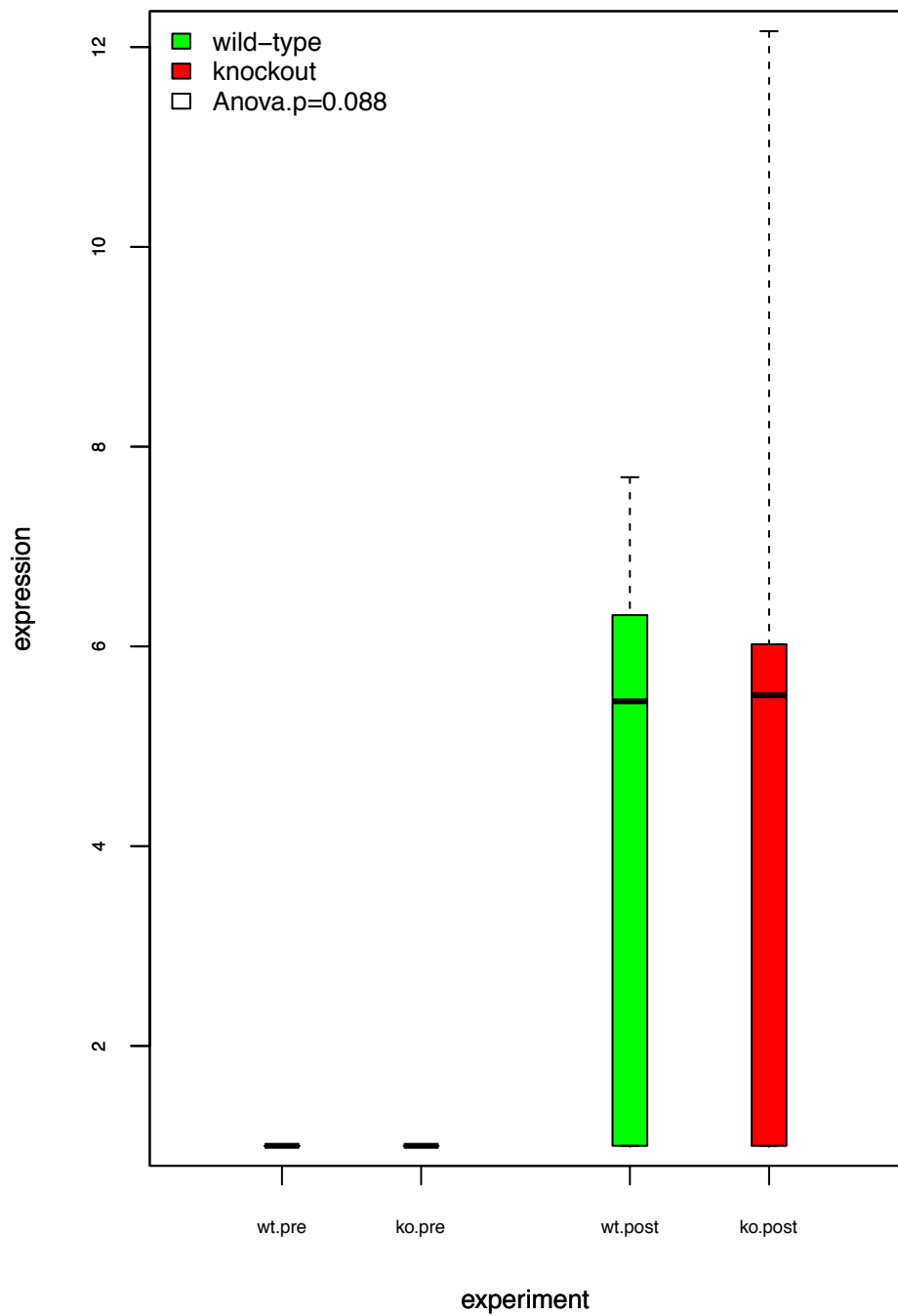
Wnt2b



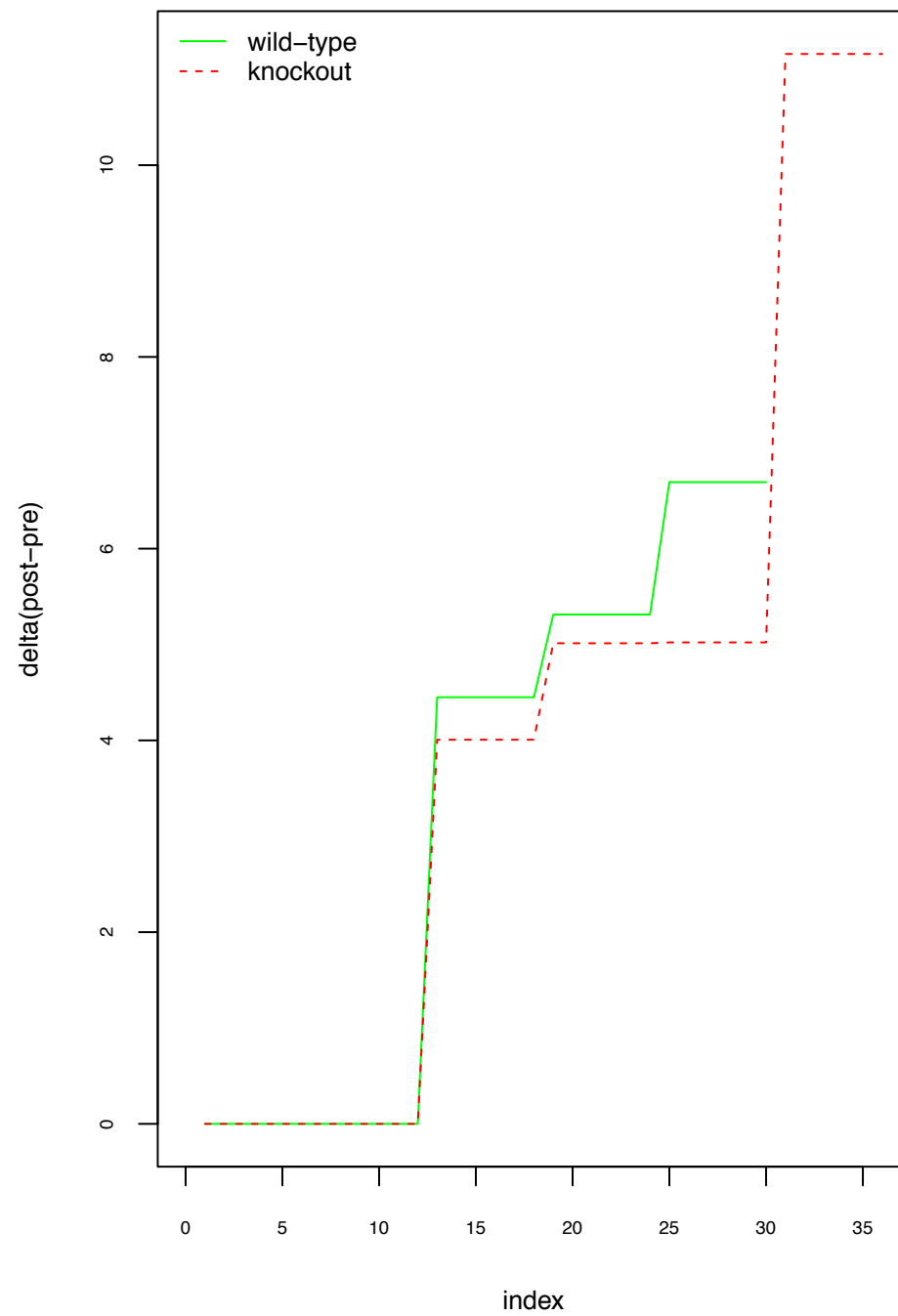
Wnt2b



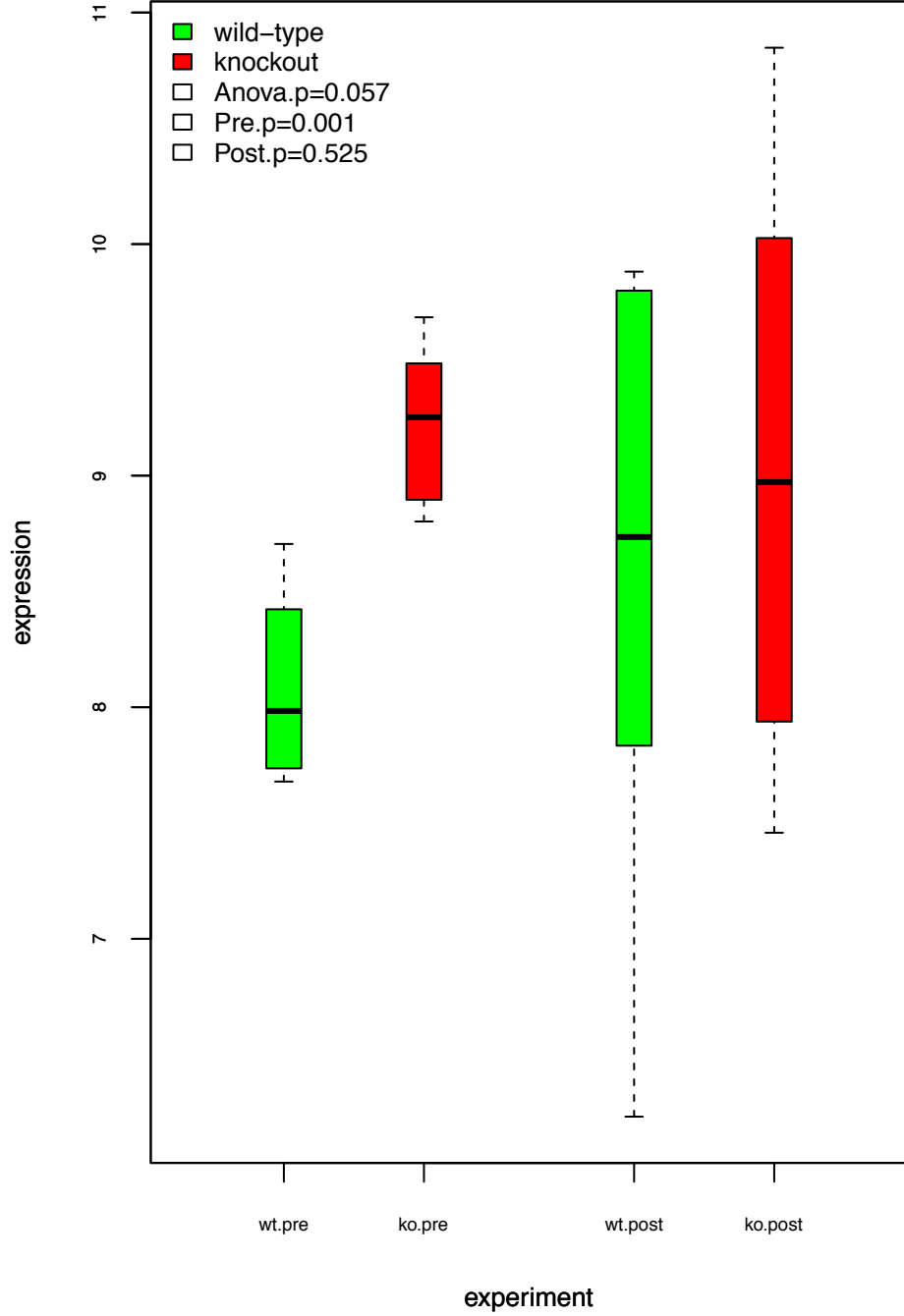
Wnt1



Wnt1



Wif1



Wif1

