SUPPLEMENTARY DATA

Supplementary Table 1. Previous Randomized controlled Trials of Testosterone Therapy in Men with Type 2 Diabetes or the Metabolic Syndrome.

	n	Age y	BMI kg/m^2	HbA1c Base-line %	Study Length wks	Drop-out %	TT Base-line	TT on Treat-ment	HOMA-IR % Change[d]	HbA1c %	Body Composition
Kapoor[21]	24	64	33	7.3	12	0	8.6	12.8	-39*	-0.37*	Waist -1.6 cm* Body fat: NC[e]
Gopal[36]	22	44	24	7.0	12	0	10.1	NR	NC	NC	Waist NC
Kalin-chenko[37]	184[a]	52	35	NR	30	7	6.7	13.1	-31*	NR	Body Weight -4.3kg* Waist -6cm*
Jones[38]	220[b]	60	32	7.2[c]	26	29	9.4	19.5	-15*	NC	Waist NC Body fat: NC[e]
Solvay[#]	180	NR	NR	7-9.5	26	11	<13	NR	NC	NC	LBM = +1.4kg[f]

[a]Participants had a diagnosis of the Metabolic Syndrome, 56 of whom also had type 2 diabetes. bMen had either diabetes (n=137) and or the Metabolic
syndrome. csubgroup with type 2 diabetes. d% change relative to baseline. eMeasured by bioelectrical impedance. fMethodology not reported. *p<0.05.
Testosterone was measured by immunoassay in these studies, and body composition changes were inferred from anthropometric or bioelectrical impedance measurements as indicated.
#unpublished, accessed at
http://www.solvaypharmaceuticals.com/static/wma/pdf/1/3/4/4/2/S176.2.101.pdf.
TT=total testosterone (nmol/L); Waist= waist circumference; NR= not reported; NC= no change (p >0.05). Adapted and updated from (13).

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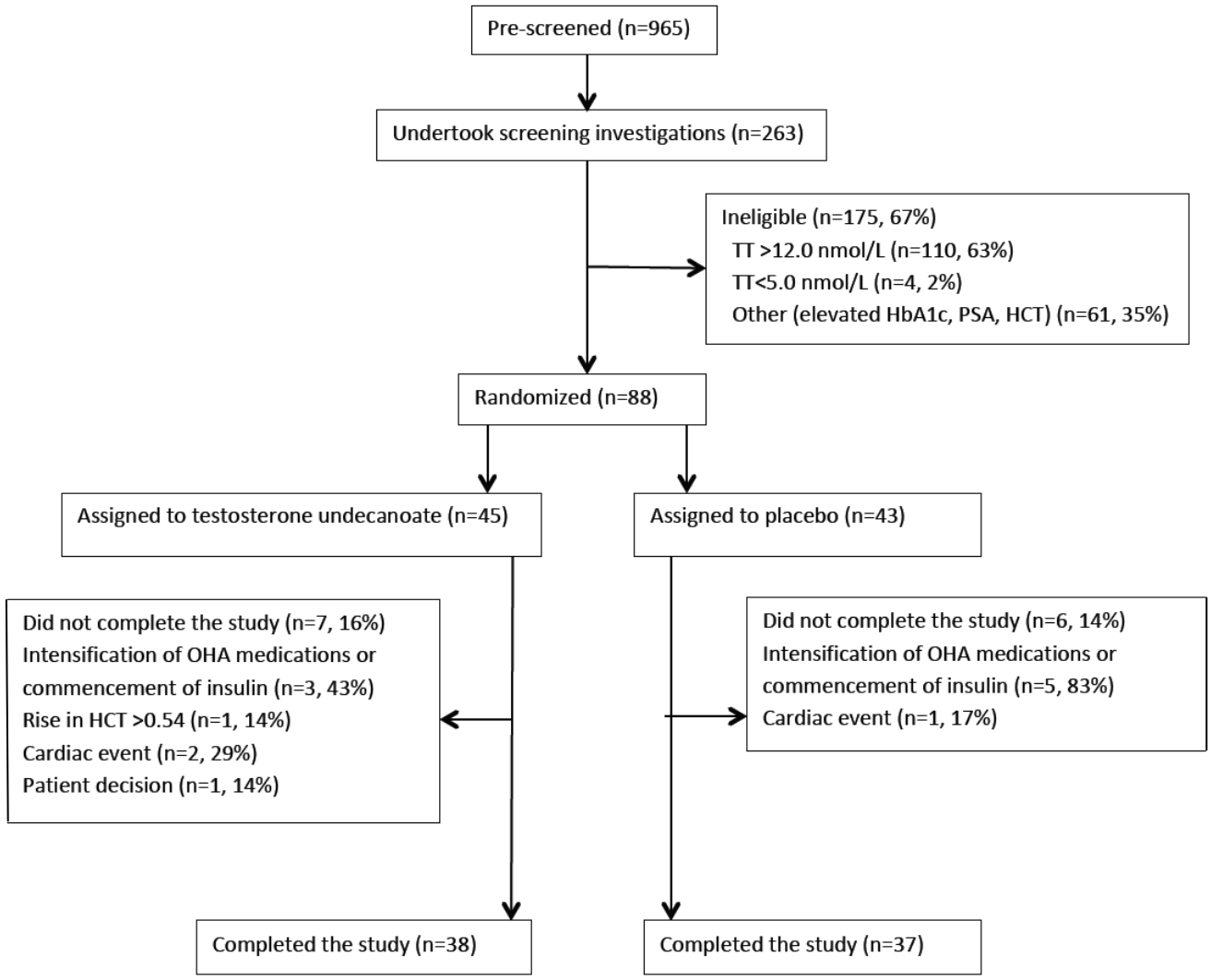
SUPPLEMENTARY DATA

Supplementary Figure 1. Study Flow Diagram.



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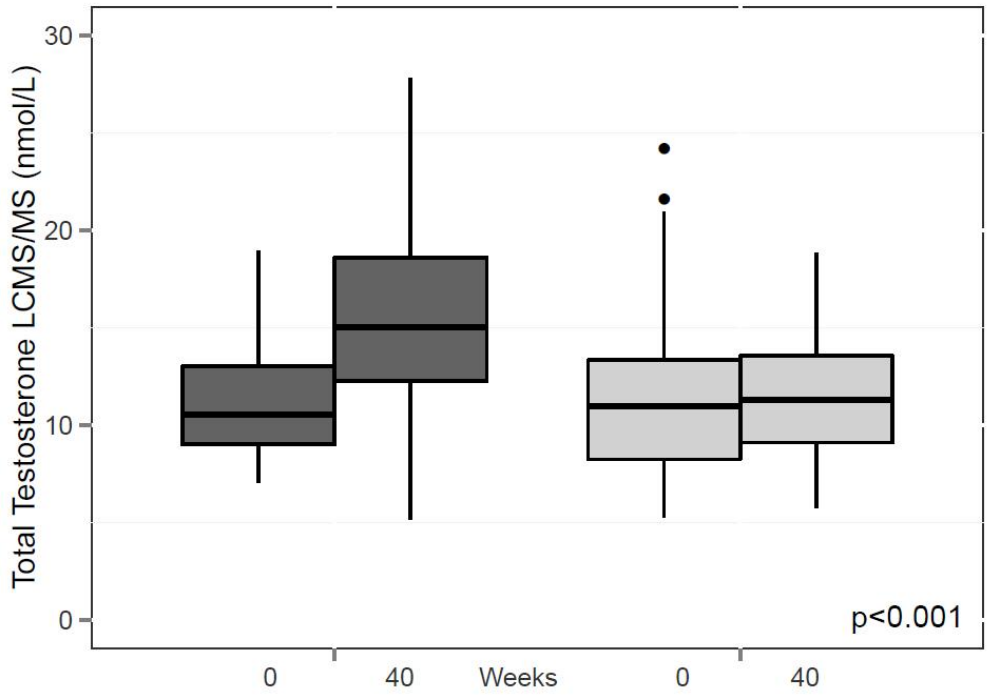
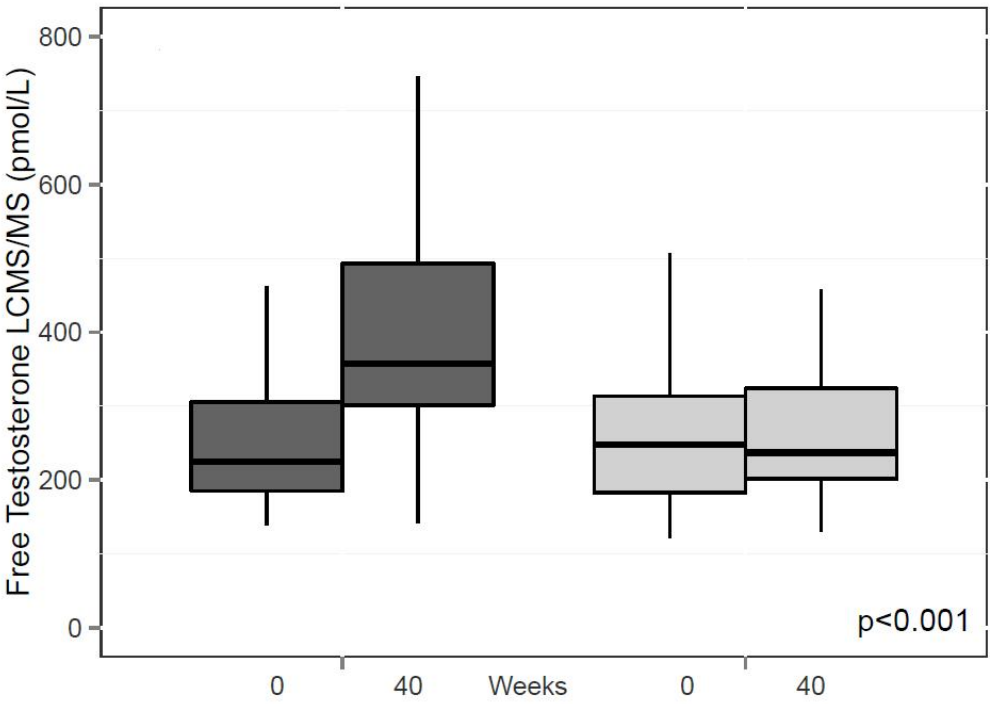
SUPPLEMENTARY DATA

Supplementary Figure 2. Changes in Circulating Hormones in the Testosterone and Placebo Groups. P-values refer to the change between groups over the entire observation period mixed model, see Methods). The testosterone-treated group is indicated in dark grey, the placebo-treated group in light grey. Mean adjusted differences between groups across time are reported in Results After 40 weeks, hormone levels had significantly changed (increase in TT, cFT and decrease in LH, SHBG) in the testosterone group only ($p<0.001$).





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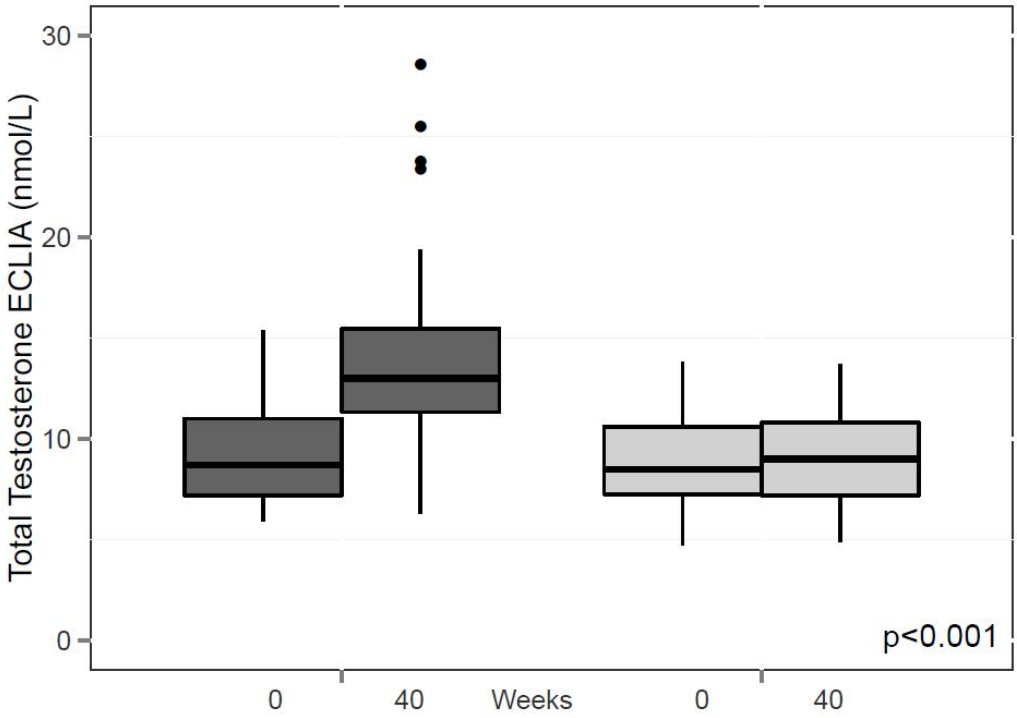

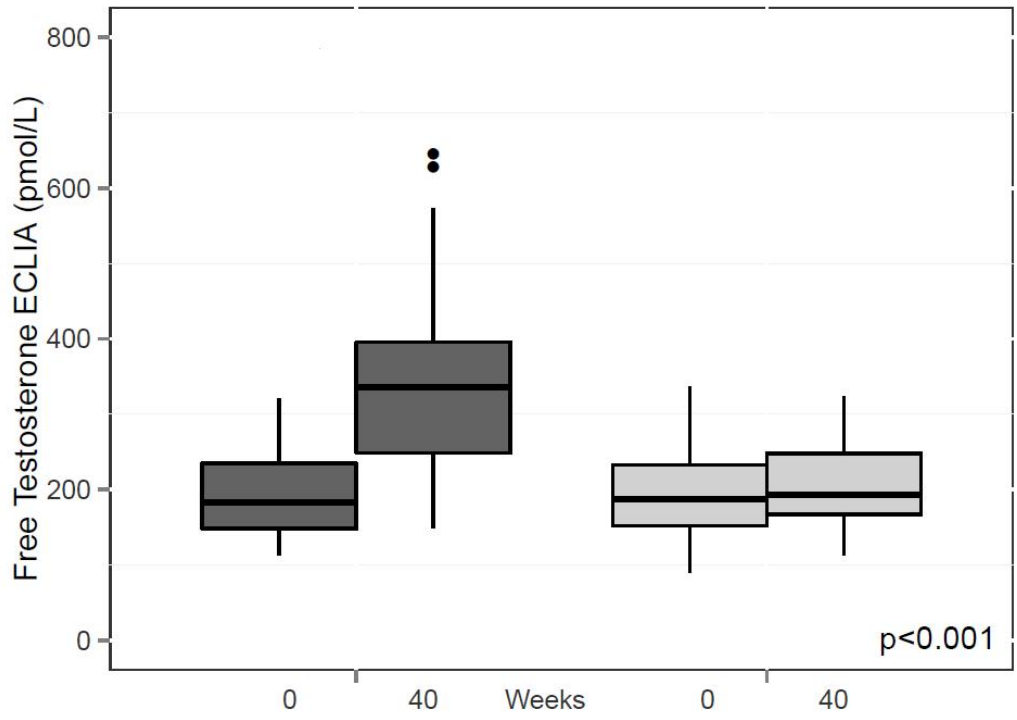

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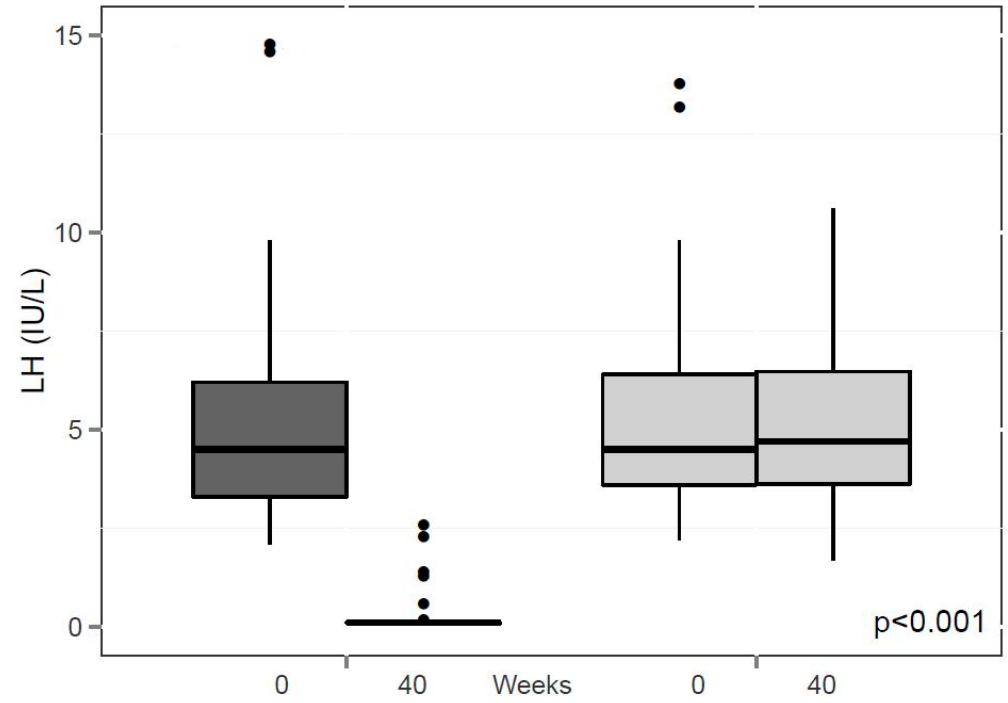

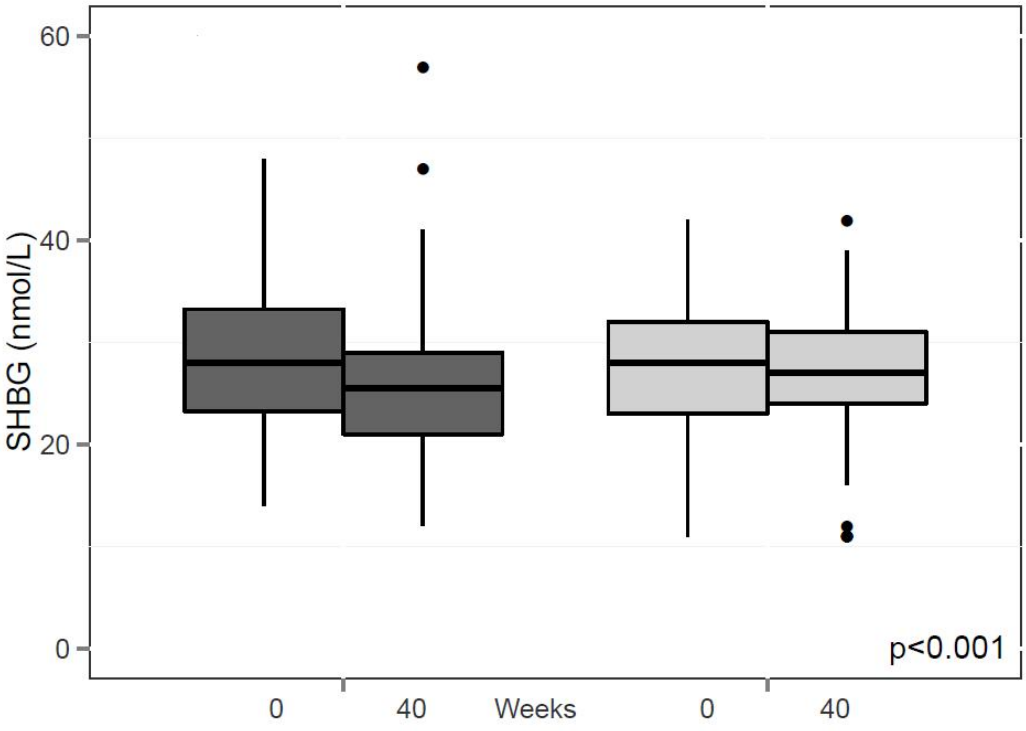

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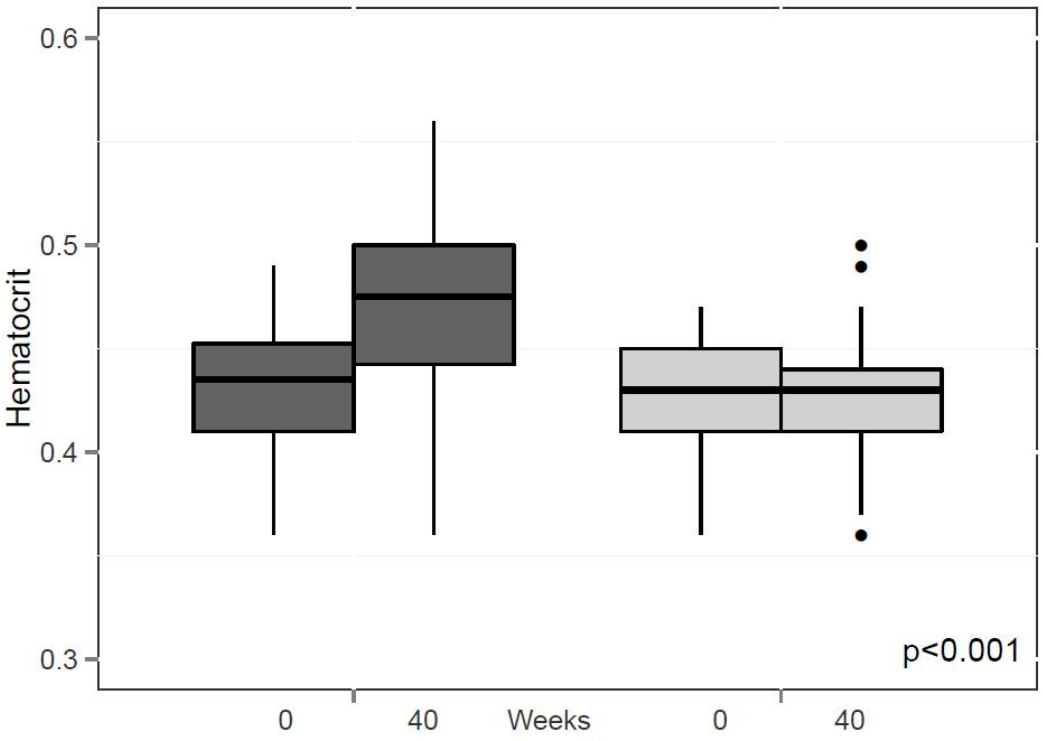
SUPPLEMENTARY DATA

Supplementary Figure 3. Changes in Hemoglobin, Hematocrit and PSA in Testosterone and Placebo Groups. P-values refer to the change between groups over the entire observation period (mixed model, see Methods). The testosterone-treated group is indicated in dark grey, the placebo-treated group in light grey. Mean adjusted differences are reported in Results. After 40 weeks, hemoglobin, hematocrit and PSA increased in the testosterone group only ($p<0.001$).



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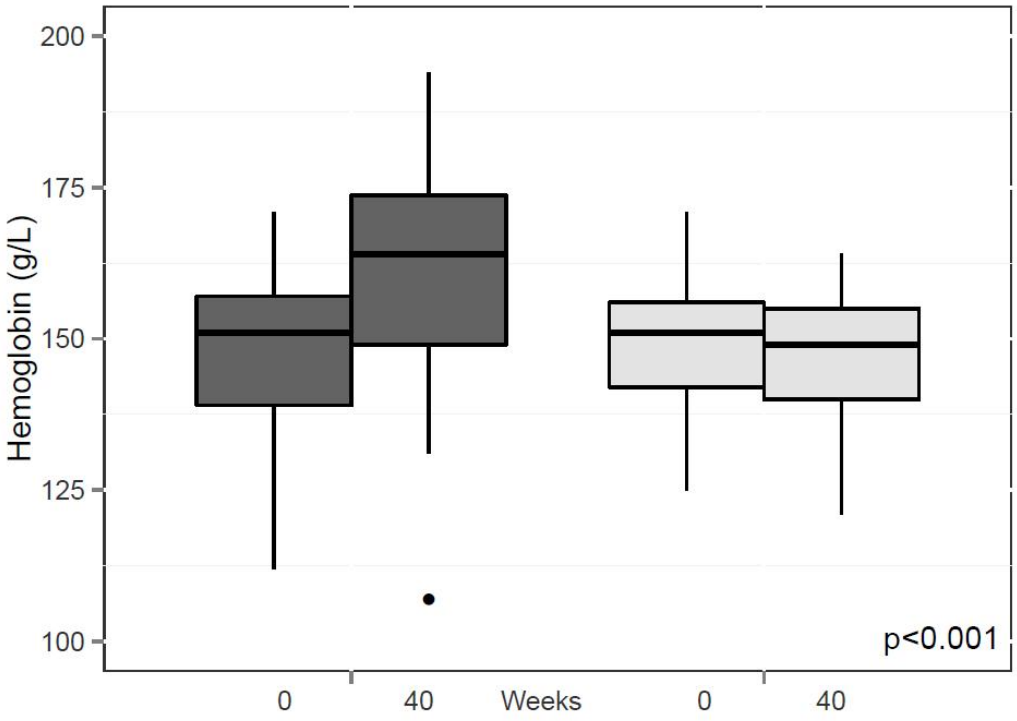

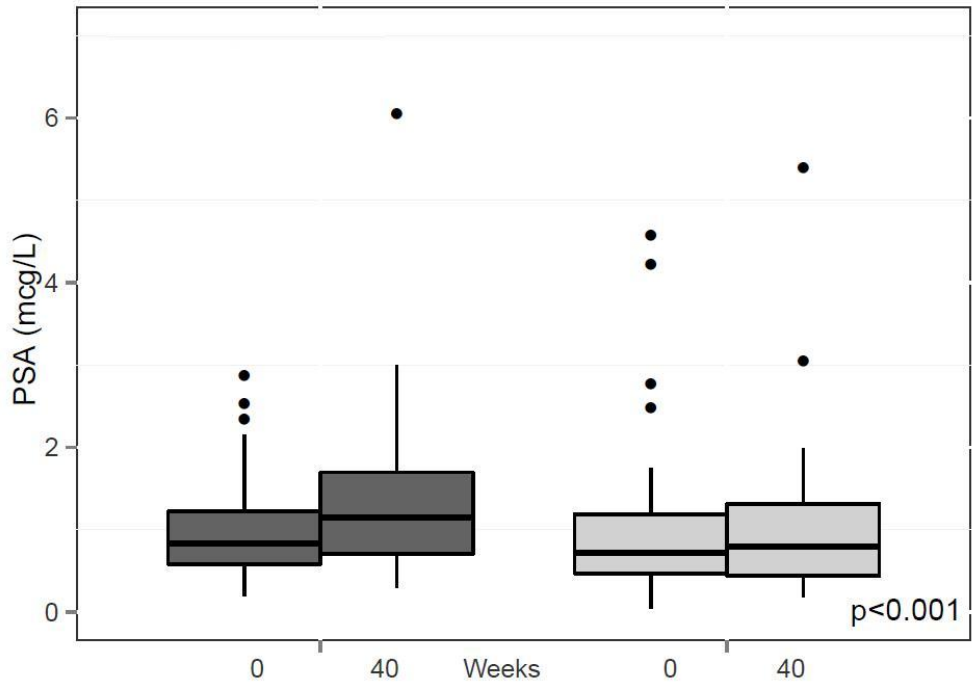

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