

Figure S1

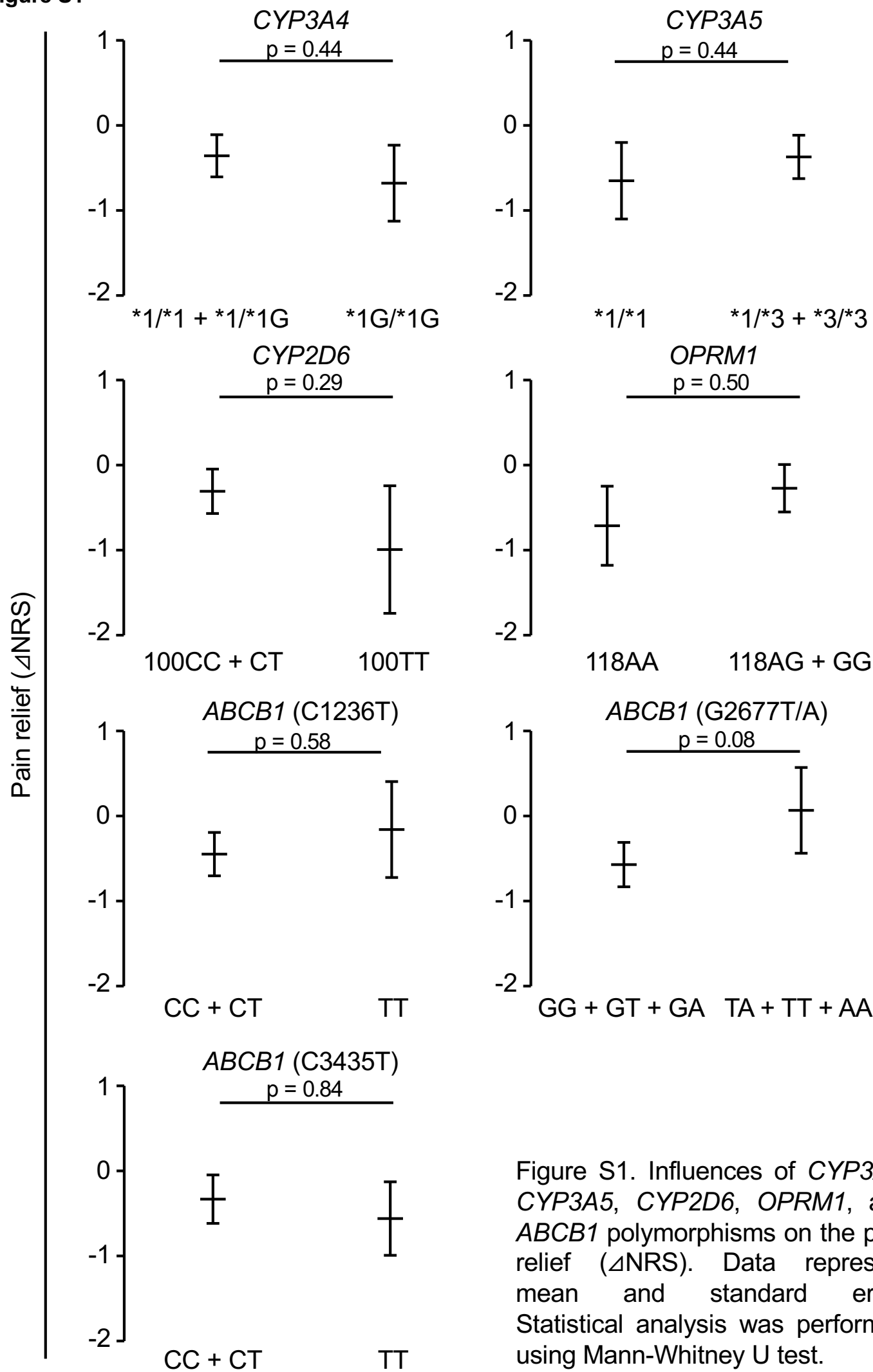


Figure S1. Influences of *CYP3A4*, *CYP3A5*, *CYP2D6*, *OPRM1*, and *ABCB1* polymorphisms on the pain relief (Δ NRS). Data represent mean and standard error. Statistical analysis was performed using Mann-Whitney U test.

Figure S2

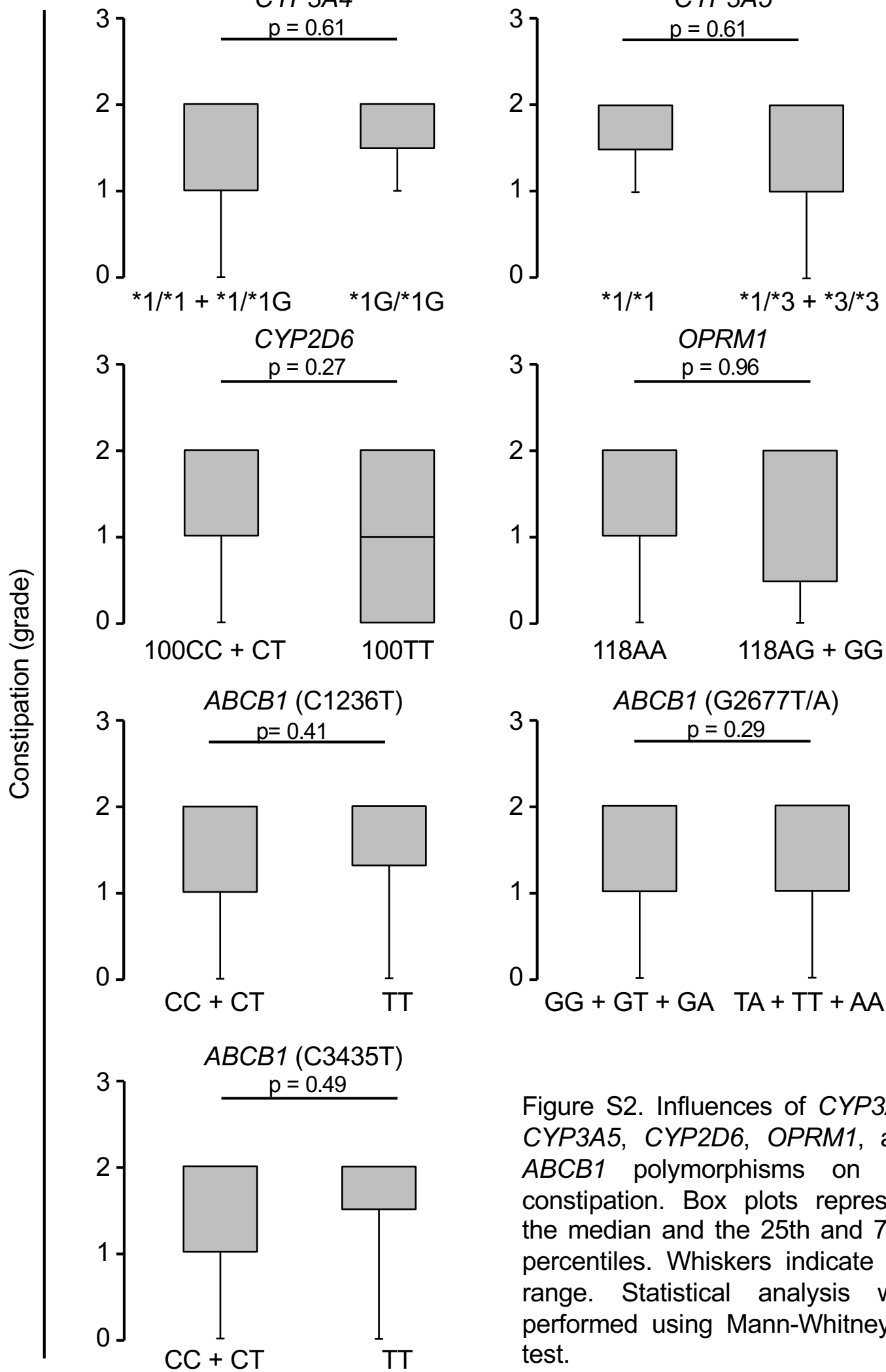


Figure S2. Influences of *CYP3A4*, *CYP3A5*, *CYP2D6*, *OPRM1*, and *ABCB1* polymorphisms on the constipation. Box plots represent the median and the 25th and 75th percentiles. Whiskers indicate the range. Statistical analysis was performed using Mann-Whitney U test.

Figure S3

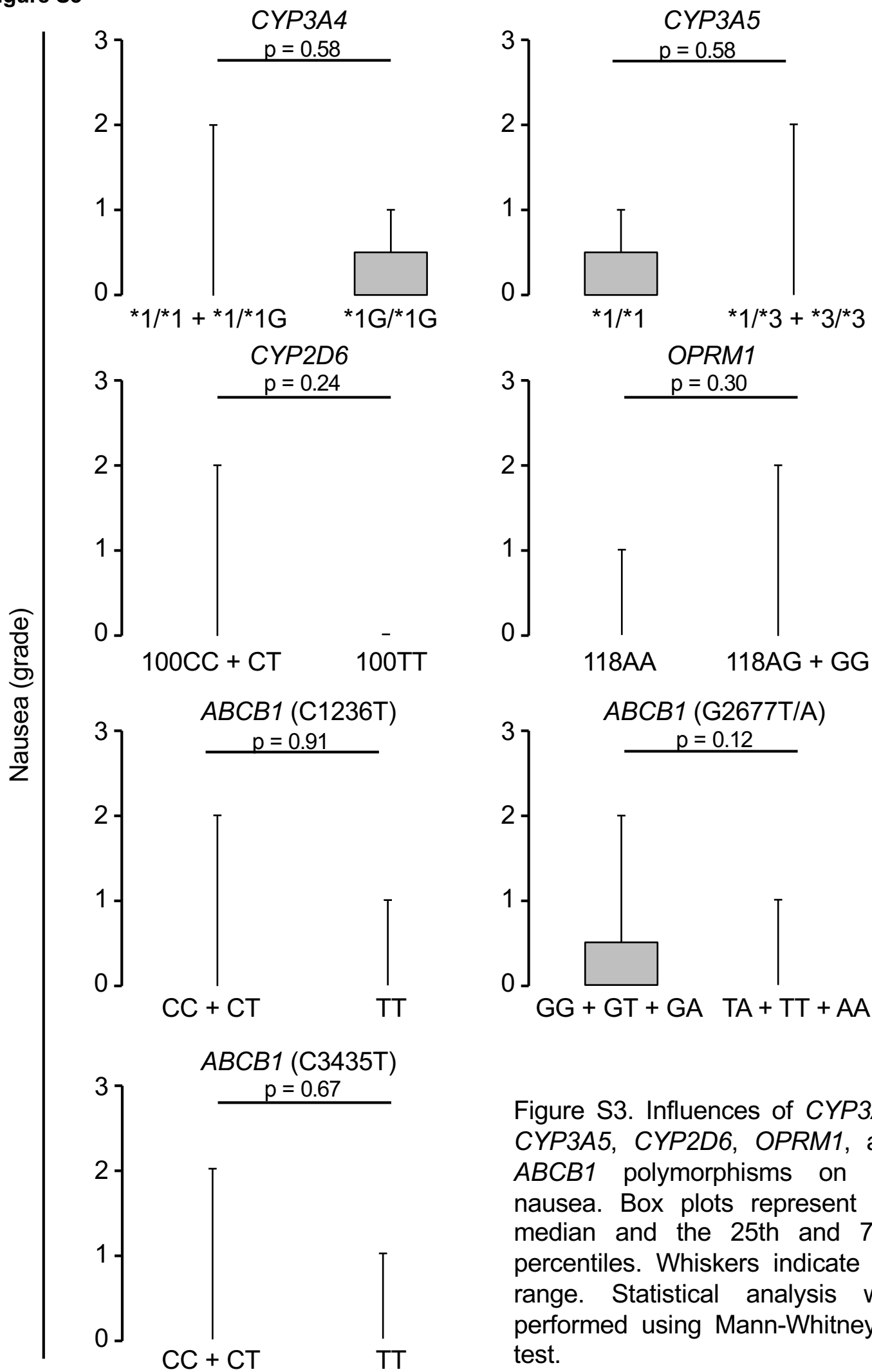


Figure S3. Influences of *CYP3A4*, *CYP3A5*, *CYP2D6*, *OPRM1*, and *ABCB1* polymorphisms on the nausea. Box plots represent the median and the 25th and 75th percentiles. Whiskers indicate the range. Statistical analysis was performed using Mann-Whitney U test.

Figure S4

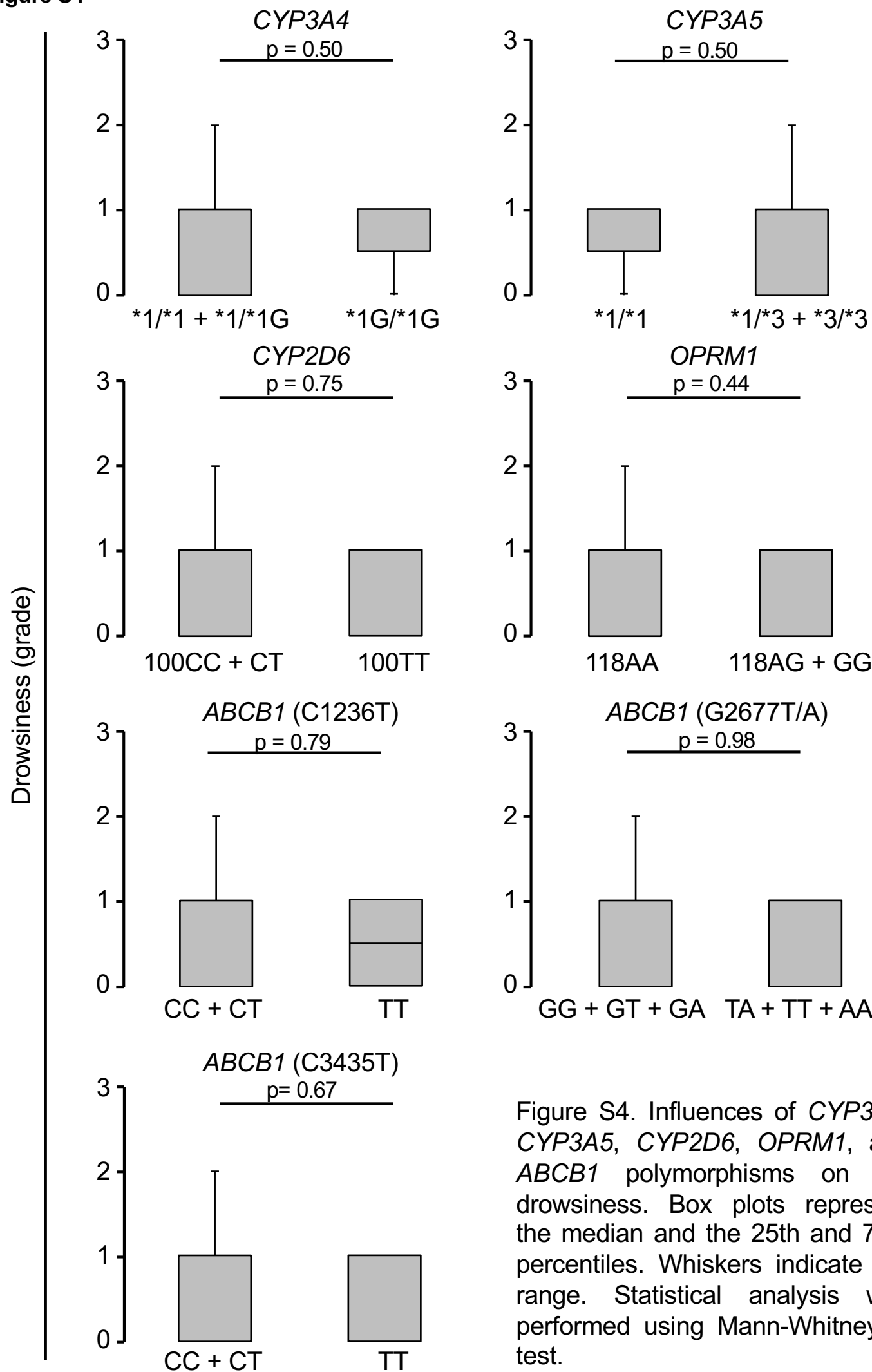


Figure S4. Influences of *CYP3A4*, *CYP3A5*, *CYP2D6*, *OPRM1*, and *ABCB1* polymorphisms on the drowsiness. Box plots represent the median and the 25th and 75th percentiles. Whiskers indicate the range. Statistical analysis was performed using Mann-Whitney U test.

Table S1 Effects of severity of cachexia and genetic polymorphisms on metabolic activity

[illegible]

Table S2 Concomitant agents

	n		n
For nausea	36	Chemotherapy-related agents	46
Esomeprazole magnesium hydrate	1	Dexamethasone	30
Famotidine	5	Granisetron hydrochloride	15
Lansoprazole	8	Gemcitabine	13
Metoclopramide hydrochloride	2	Palonosetron Hydrochloride	9
Mosapride citrate hydrate	2	Bevacizumab	7
Omeprazole	1	Zoledronic Acid Hydrate	6
Prochlorperadine mesilate	8	Fluorouracil	5
Rabeprozole sodium	5	Levofolinate calcium	5
Rebamipide	15	Oxaliplatin	5
Sulpiride	3	Diphenhydramine	5
For constipation	29	Azasetron Hydrochloride	5
Magnesium oxide	26	Paclitaxel	4
Pantethine	12	Ramosetron Hydrochloride	4
Sennoside A	8	Irinotecan hydrochloride	3
Sodium picosulfate hydrate	2	Paclitaxel	3
Other	24	Tegafur Gimeracil Oteracil potassium	3
Zoledronic Acid Hydrate	11	Cetuximab	2
Triazoram	4	Docetaxel Hydrate	2
Zolpidem tartarate	4	Trastuzumab	2
Alprazolam	3	Pemetrexed Sodium Hydrate	2
Amlodipine besilate	3	Chlorpheniramine Maleate	2
Acetaminophen	2	Aprepitant	2
Brotizolam	2	Goserelin acetate	1
Rilmazafone hydrochloride	2	Temsirolimus	1
Benidipine hydrochloride	1	Vincristine Sulfate	1
Diltiazem hydrochloride	1	Pirarubicin hydrochloride	1
Disopyramide	1	Sunitinib malate	1
Epinastine hydrochloride	1	Amrubicin Hydrochloride	1
Etizoram	1	Bortezomib	1
Letrozole	1	Melphalan	1
Meloxicam	1	Doxorubicin Hydrochloride	1
Prednisolone	1	Prednisolone	1
Rosvastatin calsium	1	Panitumumab	1
Silodosin	1	Leuporelin Acetate	1
Sitagliptin phosphate hydrate	1		
Zopiclone	1		

Plasma concentration of oxycodone (ng/mL)/total daily dose (mg/day)/body weight (kg)					
	User			Non-user	
	n	Median (interquartile range)		n	Median (interquartile range)
Concomitant agents					
For nausea	35	0.011 (0.01-0.03)		14	0.013 (0.01-0.02)
For constipation	29	0.013 (0.01-0.03)		20	0.008 (0.01-0.02)
Chemotherapy-related agents	46	0.012 (0.01-0.03)		4	0.013 (0.00-0.02)
Other	24	0.015 (0.01-0.05)		25	0.011 (0.01-0.02)

Table S3 Concomitant agents of patients with CYP3A4 *1G/*1G and CYP3A5 *1/*1

Drug interactions with oxydone	
Patient 1	
Gabapentin	No interactions found
Sennoside A B (senna)	No interactions found
Cetuximab	No information
Irinotecan hydrochloride	No interactions found
Dexamethasone	Dexamethasone decreases levels of oxycodone by affecting hepatic/intestinal enzyme CYP3A4 metabolism.
Granisetron hydrochloride	No interactions found
Diphenhydramine	Diphenhydramine will increase the level or effect of oxycodone by affecting hepatic enzyme CYP2D6 metabolism.
	Diphenhydramine and oxycodone both increase sedation.
	Diphenhydramine decreases effects of oxycodone by decreasing metabolism. Decreased conversion of oxycodone to active metabolite morphine.
Patient 2	
Lansoprazole	No interactions found
Pantethine	No information
Magnesium oxide	No interactions found
Gemcitabine	No interactions found
Dexamethasone	Dexamethasone decreases levels of oxycodone by affecting hepatic/intestinal enzyme CYP3A4 metabolism.
Granisetron hydrochloride	No interactions found
Chlorpheniramine Maleate	Chlorpheniramine and oxycodone both increase sedation
Patient 3	
Lansoprazole	No interactions found
Gemcitabine	No interactions found
Dexamethasone	Dexamethasone decreases levels of oxycodone by affecting hepatic/intestinal enzyme CYP3A4 metabolism.

Drug interactions with oxydone were determined by using Drug Interaction Checker (Medscape: <https://reference.medscape.com/drug-interactionchecker>, cited 2019/04/18)