

Insulin Clamp Study on Mck-TSC1 Mice

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1 Experiment Summary

	Genotype	X.	ID	Basal.Glucose	Clamp.Glucose	Clamp.GIR	Clamp.AUC	Basal.SA	Clamp.SA	B
8	Knockout	8	245	88	113	38.3	4303	166204	158722	
11	Knockout	1	266	107	125	40.4	4206	144050	157520	
12	Knockout	2	267	139	114	14.5	1760	95930	120125	
13	Knockout	3	323	139	112	15.8	1938	282602	261183	
14	Knockout	4	371	117	138	31.2	3515	360233	286396	
15	Knockout	5	197	89	117	31.0	3235	163434	212528	
16	Knockout	6	184	110	112	25.3	2594	164238	200053	
17	Knockout	7	230	98	124	28.3	2967	164504	159853	
1	Wild-Type	1	370	137	135	21.1	2336	176774	166972	
2	Wild-Type	2	186	130	115	16.4	1857	127462	164844	
3	Wild-Type	3	269	126	118	25.4	2651	156866	139891	
4	Wild-Type	4	268	138	134	22.7	2640	90144	106372	
5	Wild-Type	5	377	145	143	23.3	2468	84227	108108	
6	Wild-Type	6	378	152	120	25.2	2535	107524	112819	
7	Wild-Type	7	381/wh	111	118	31.0	3294	127835	149024	
9	Wild-Type	9	381/br	103	110	32.6	3461	112970	139744	
10	Wild-Type	10	262	129	120	20.7	2457	151048	184565	

1.1 Data Summary

The mean data is compiled with the standard errors

1.2 Statistics

Table 2: Averaged Data

	Genotype	GIR	Basal.HGP	Clamp.HGP	sHGP	Clearance.Basal	Clearance.Clamp	Insulin	Gastroc	V.fat
2	Wild-Type	2633	29.5	27.3	7.37	16.4	27.3	11.22	13.0	2.0
1	Knockout	3065	28.6	25.3	16.95	16.5	33.3	3.41	13.1	6.0

Table 3: Standard Error

	Genotype	GIR	Basal.HGP	Clamp.HGP	sHGP	Clearance.Basal	Clearance.Clamp	Insulin	Gastroc	V.fat
2	Wild-Type	162	2.73	3.25	4.8	1.38	1.49	2.210	1.55	0.34
1	Knockout	335	4.04	6.76	12.0	1.74	4.87	0.668	2.05	1.40

Table 4: T-Tests, Unadjusted

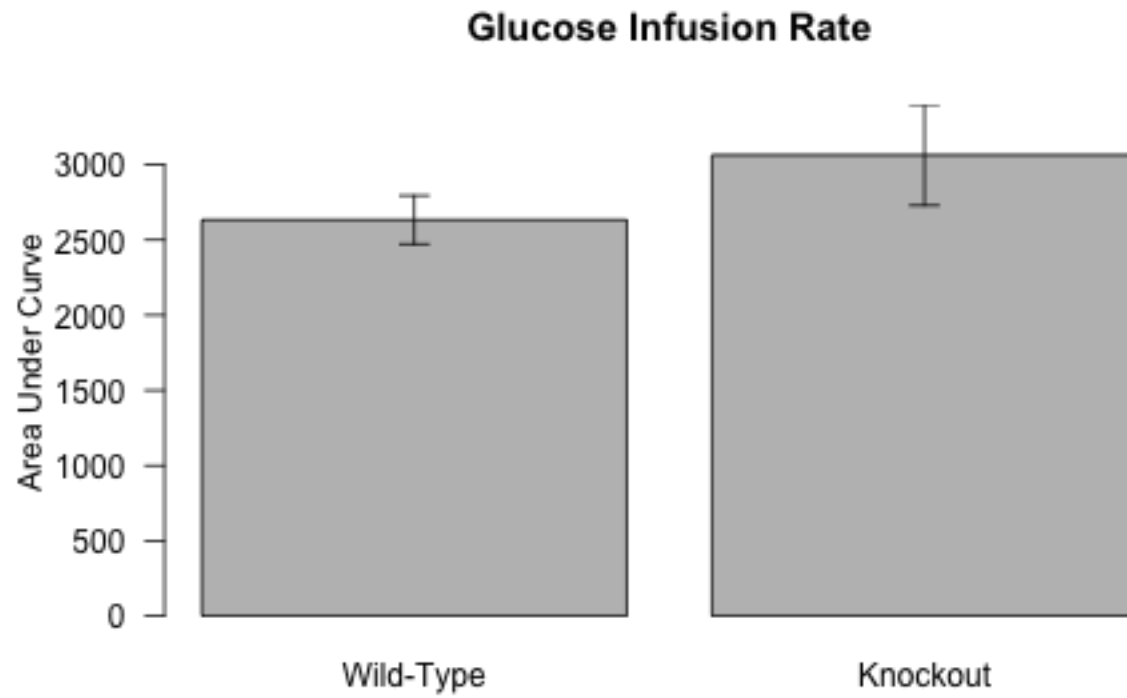
Clamp.GIR	Clamp.AUC	Basal.HGP	Clamp.HGP	sHGP	Clearance.Basal	Clearance.Clamp	Insulin	Gastroc
0.325	0.272	0.852	0.792	0.477	0.953	0.269	0.008	0.984

Table 5: Benjamini-Hochberg Adjusted T-Tests

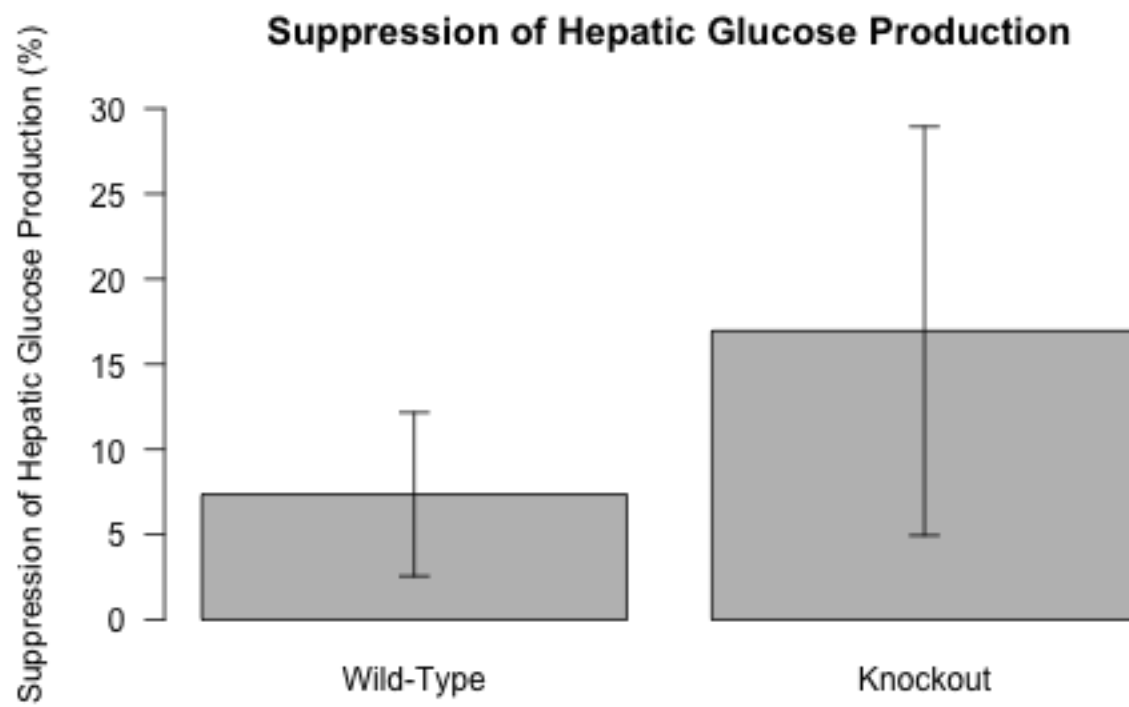
	p.adjust(t.tests, "BH", 13)
Clamp.GIR	0.555
Clamp.AUC	0.555
Basal.HGP	0.984
Clamp.HGP	0.984
sHGP	0.688
Clearance.Basal	0.984
Clearance.Clamp	0.555
Insulin	0.049
Gastroc	0.984
V.fat	0.117
S.fat	0.049
BAT	0.555
Heart.fit	0.426

2 Graphs

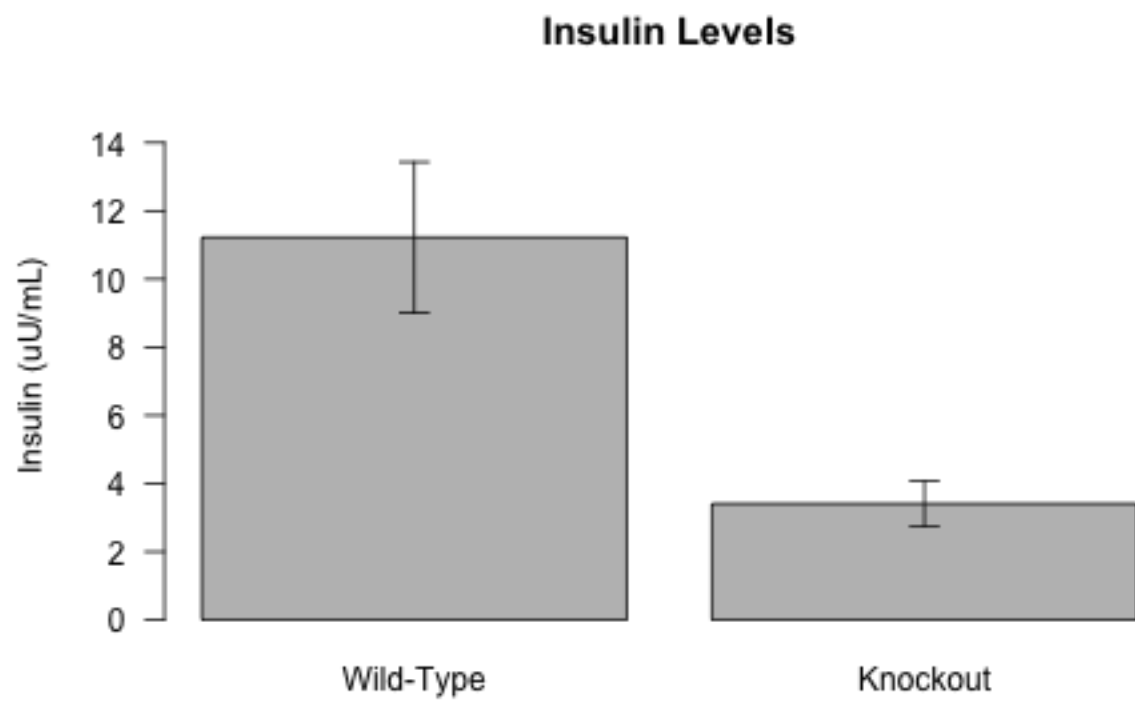
2.1 Glucose Infusion Rate



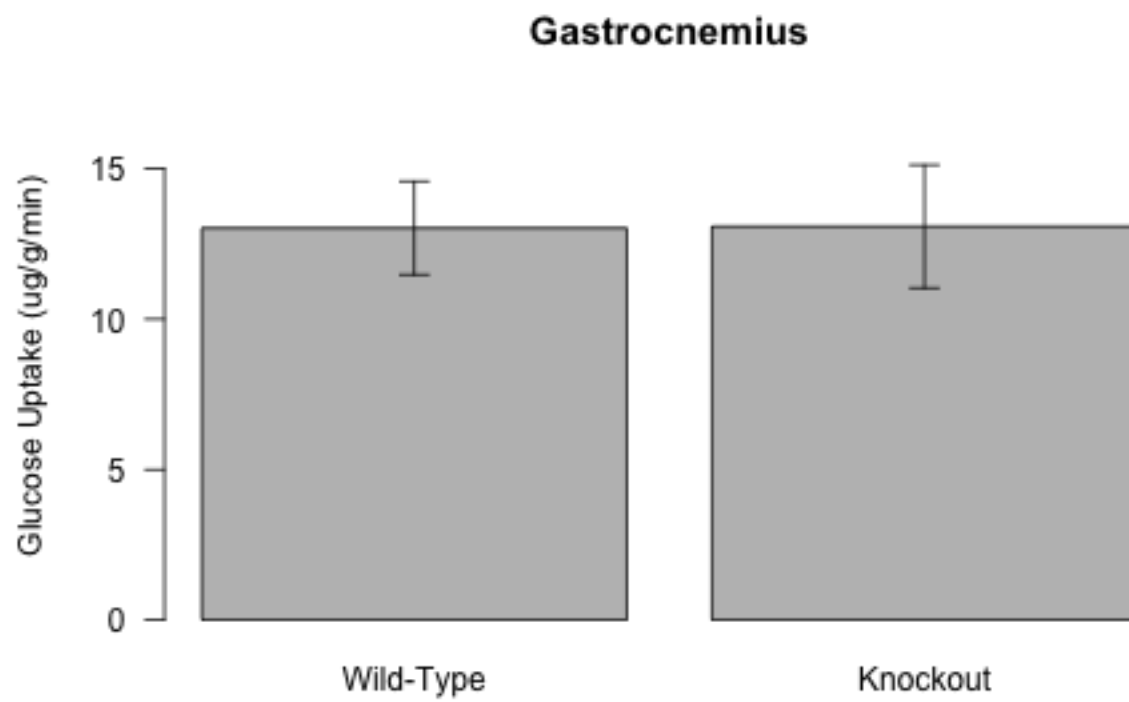
2.2 Suppression of Hepatic Glucose Output



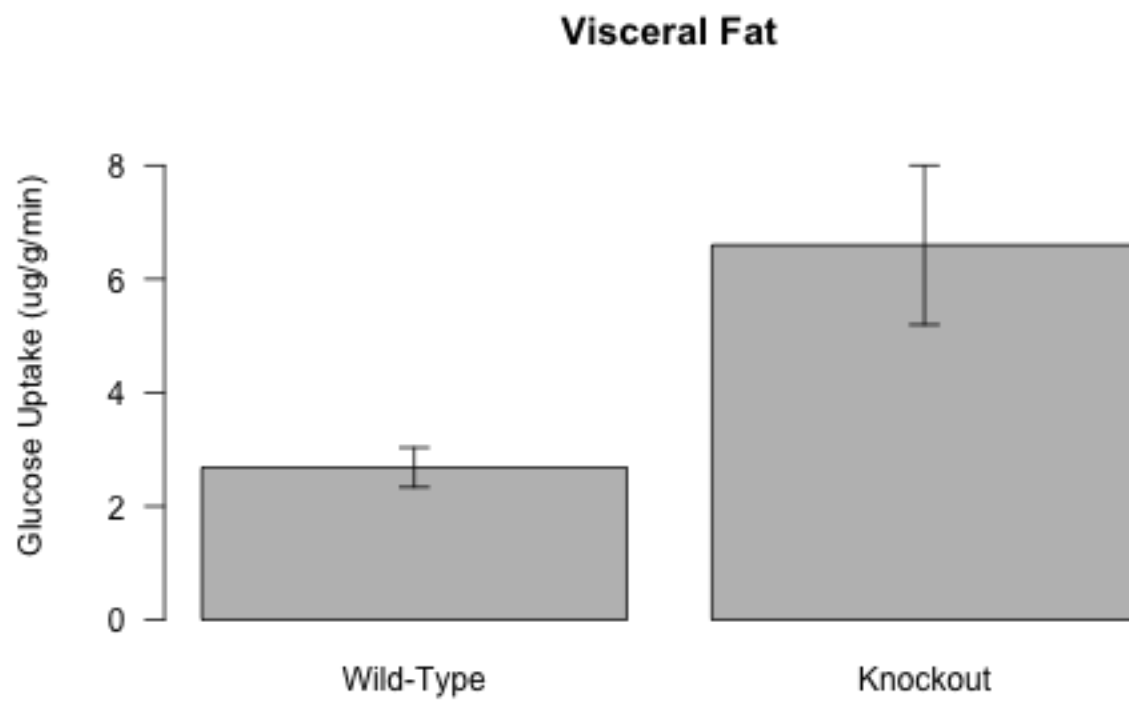
2.3 Insulin Levels



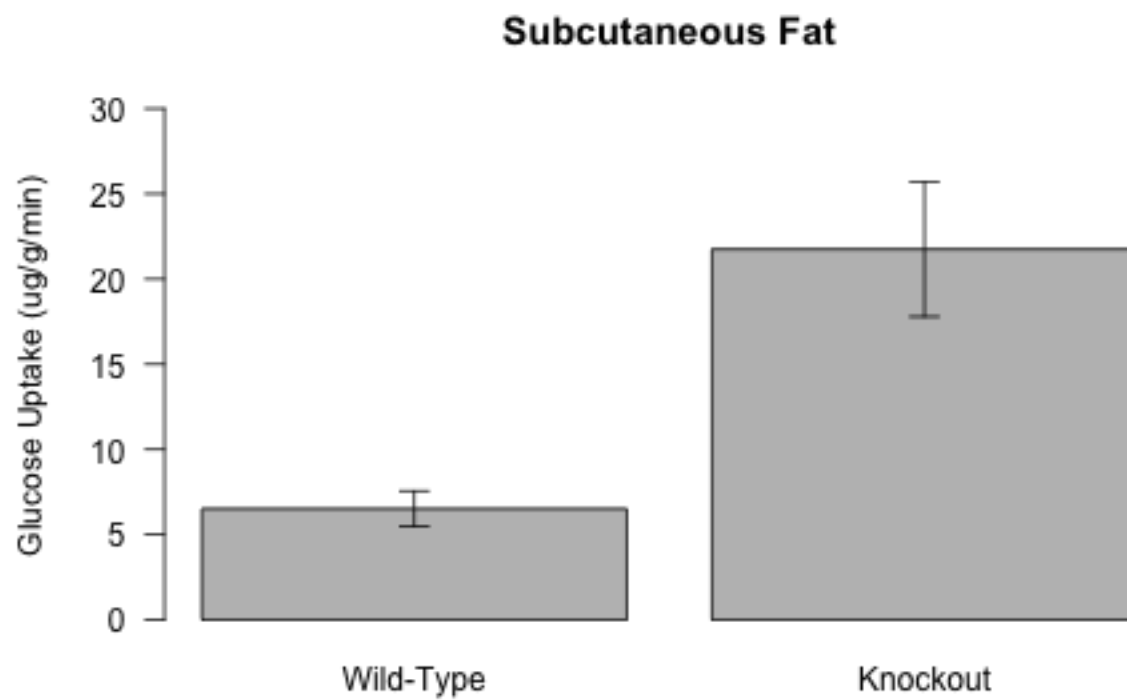
2.4 Gastrocnemius Glucose Uptake During Clamp



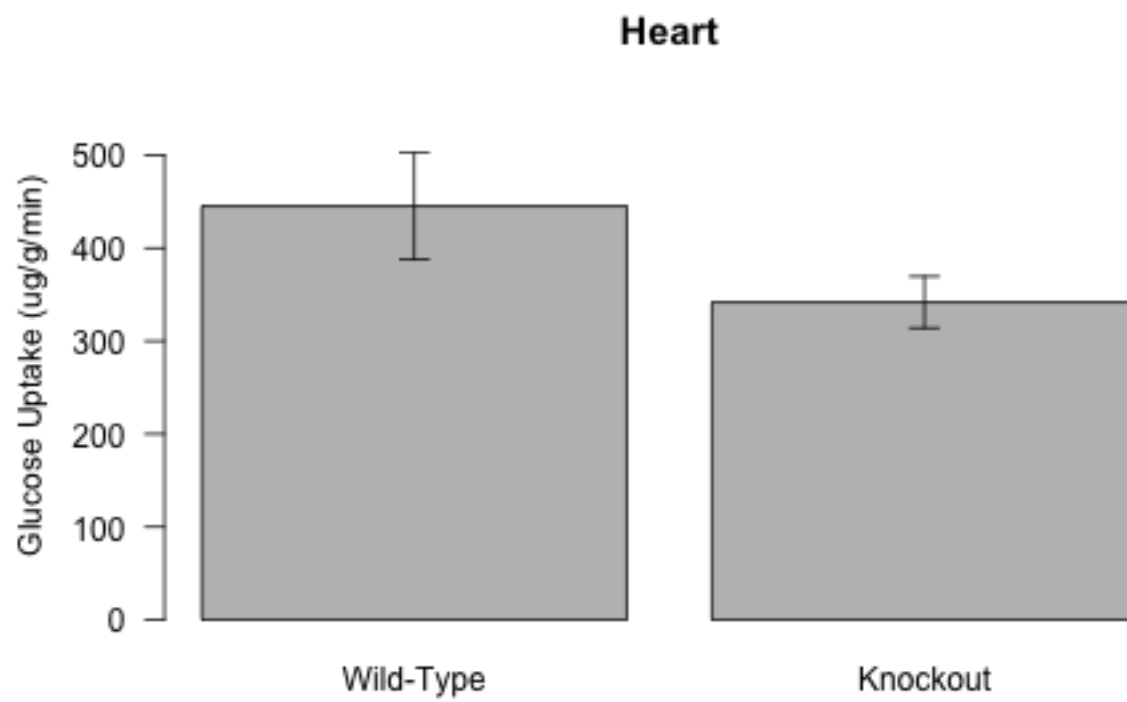
2.5 Visceral Fat Glucose Uptake During Clamp



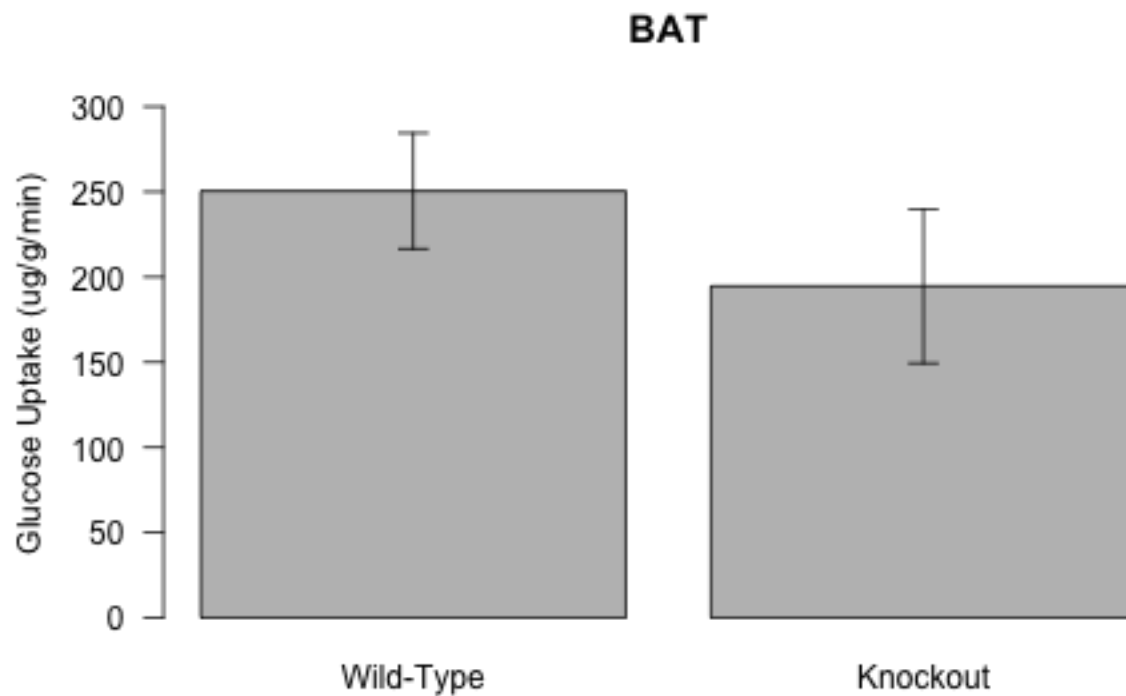
2.6 Subcutaneous Fat Glucose Uptake During Clamp



2.7 Heart Glucose Uptake During Clamp



2.8 Brown Adipose Tissue Glucose Uptake During Clamp



3 Session Information

```
sessionInfo()
```

```
## R version 3.5.0 (2018-04-23)
## Platform: x86_64-apple-darwin15.6.0 (64-bit)
## Running under: macOS 10.14.5
##
## Matrix products: default
## BLAS: /Library/Frameworks/R.framework/Versions/3.5/Resources/lib/libRblas.0.dylib
## LAPACK: /Library/Frameworks/R.framework/Versions/3.5/Resources/lib/libRlapack.dylib
##
## locale:
## [1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods   base
##
## other attached packages:
## [1] plyr_1.8.4  dplyr_0.8.1 tidyr_0.8.3 knitr_1.23
##
## loaded via a namespace (and not attached):
```

```
## [1] Rcpp_1.0.1      assertthat_0.2.1 crayon_1.3.4    digest_0.6.19
## [5] R6_2.4.0        magrittr_1.5     evaluate_0.14    highr_0.8
## [9] pillar_1.4.1    rlang_0.3.4      stringi_1.4.3    rmarkdown_1.13
## [13] tools_3.5.0     stringr_1.4.0    glue_1.3.1       purrr_0.3.2
## [17] xfun_0.7        yaml_2.2.0       compiler_3.5.0   pkgconfig_2.0.2
## [21] htmltools_0.3.6 tidyselect_0.2.5 tibble_2.1.3
```