Model 1

Annie Cohen

4/9/2022

```
melanoma <- readRDS("Dataset.RData") %>%
  mutate(age_c = mean(age)-age,
         trans_class_bin = ifelse(trans_class == "immune",1,0),
         prop_infiltrated = infiltration_count/tile_count)

model1 <- glm(prop_infiltrated ~ KLRD1+RFX5+DDX58+EIF2AK2+CCL28+CD86+C5+DCK+age_c+gender+stage+trans_cla
              data = melanoma,
              weights = tile_count,
              family = binomial(link=logit))

model1 %>%
  summary()
```

```
##
## Call:
## glm(formula = prop_infiltrated ~ KLRD1 + RFX5 + DDX58 + EIF2AK2 +
##     CCL28 + CD86 + C5 + DCK + age_c + gender + stage + trans_class_bin,
##     family = binomial(link = logit), data = melanoma, weights = tile_count)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -20.965   -2.737    1.597    4.357   13.876
##
## Coefficients:
##                   Estimate Std. Error z value Pr(>|z|)
## (Intercept)      0.8139387  0.0277942  29.285  < 2e-16 ***
## KLRD1           -0.2020518  0.0107349 -18.822  < 2e-16 ***
## RFX5            -0.0930217  0.0087148 -10.674  < 2e-16 ***
## DDX58            0.1175686  0.0107460  10.941  < 2e-16 ***
## EIF2AK2         -0.0846684  0.0091883  -9.215  < 2e-16 ***
## CCL28           -0.0939413  0.0076328 -12.308  < 2e-16 ***
## CD86             0.1155478  0.0121146   9.538  < 2e-16 ***
## C5              -0.0285333  0.0077891  -3.663 0.000249 ***
## DCK             -0.1072896  0.0083370 -12.869  < 2e-16 ***
## age_c           -0.0013434  0.0004914  -2.733 0.006267 **
## gendermale      -0.1239559  0.0154758  -8.010 1.15e-15 ***
## stage            0.0512536  0.0097432   5.260 1.44e-07 ***
## trans_class_bin -0.2667031  0.0185781 -14.356  < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
```

```
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 10648.2  on 239  degrees of freedom
## Residual deviance:  8308.8  on 227  degrees of freedom
## AIC: 9688.6
##
## Number of Fisher Scoring iterations: 4
```

```
kable(data.frame("VIF" = vif(model1)))
```

	VIF
KLRD1	2.311632
RFX5	1.497483
DDX58	1.801502
EIF2AK2	1.574859
CCL28	1.147725
CD86	2.716860
C5	1.084000
DCK	1.460376
age_c	1.122637
gender	1.043092
stage	1.108542
trans_class_bin	1.545482

```
model1$null.deviance-model1$deviance
```

```
## [1] 2339.432
```

```
model1$df.null-model1$df.residual
```

```
## [1] 12
```

```
model1$null.deviance
```

```
## [1] 10648.21
```

```
model1$deviance
```

```
## [1] 8308.781
```

```
model1$df.null
```

```
## [1] 239
```

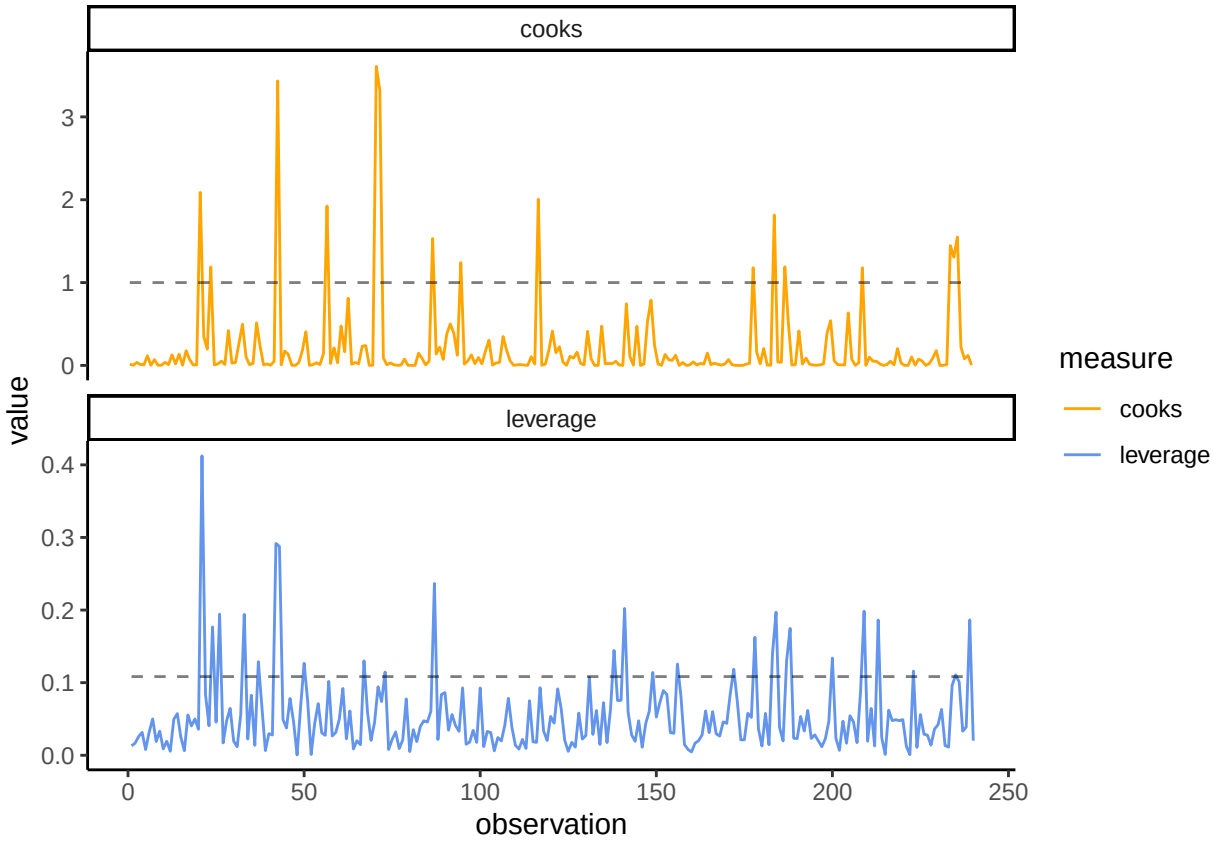
```
model1$df.residual
```

```
## [1] 227
```

```
model1$aic
```

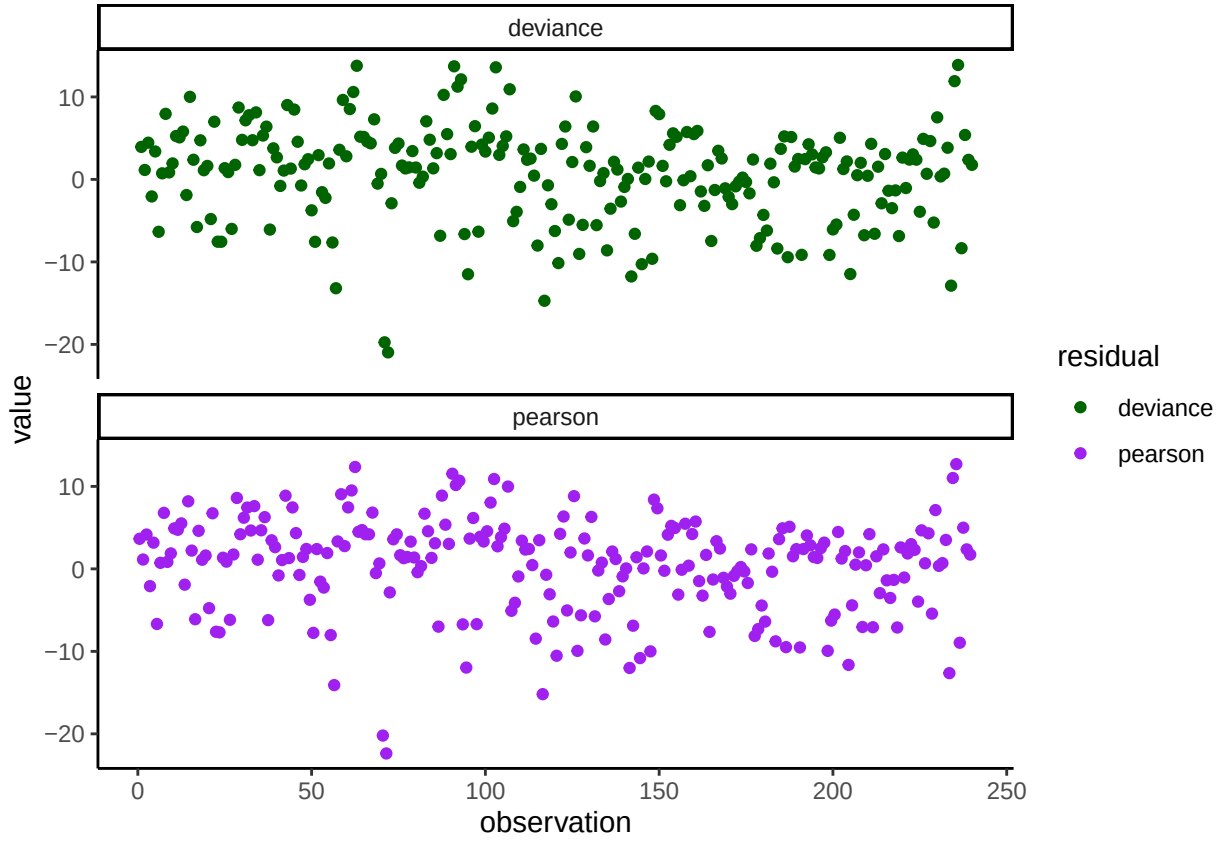
```
## [1] 9688.635
```

```
model1.diag <- glm.diag(model1)

data.frame("cooks" = model1.diag$cook, "leverage" = model1.diag$h) %>%
  pivot_longer(everything(), names_to = "measure") %>%
  mutate(cutoff = ifelse(measure=="cooks",1,26/240)) %>%
  ggplot(aes(x = seq(0.5,240,by=0.5))) +
  geom_line(aes(y = value, col = measure)) +
  geom_line(aes(y = cutoff), lty = 2, alpha = 0.5) +
  theme_classic() +
  facet_wrap(~measure, scales = "free_y", nrow = 2) +
  scale_color_manual(values = c("orange","cornflowerblue")) +
  labs(x = "observation")
```

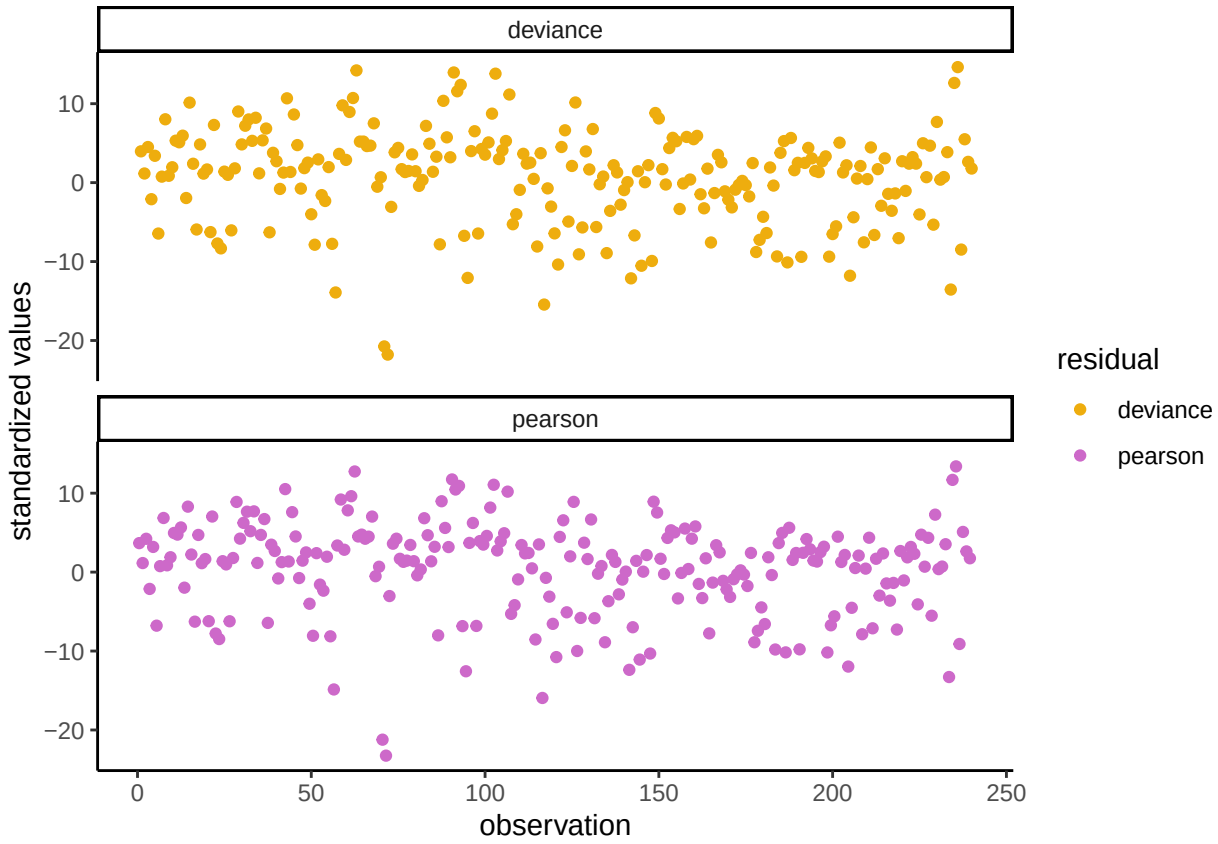



```
p_res1 <- residuals(model1, type = "pearson")
d_res1 <- residuals(model1, type = "deviance")

data.frame("pearson" = p_res1, "deviance" = d_res1) %>%
  pivot_longer(everything(), names_to = "residual") %>%
  ggplot(aes(x = seq(0.5,240,by=0.5), y = value, col = residual)) +
  geom_point() +
  facet_wrap(~residual, nrow = 2) +
```

```
  theme_classic() +
  scale_color_manual(values = c("darkgreen","purple")) +
  labs(x = "observation")
```




```
data.frame("pearson" = model1.diag$rp, "deviance" = model1.diag$rd) %>%
  pivot_longer(everything(), names_to = "residual") %>%
  ggplot(aes(x = seq(0.5,240,by=0.5), y = value, col = residual)) +
  geom_point() +
  facet_wrap(~residual, nrow = 2) +
  theme_classic() +
  scale_color_manual(values = c("darkgoldenrod2","orchid3")) +
  labs(x = "observation", y = "standardized values")
```




```
kable(data.frame("pearson" = p_res1, "deviance" = d_res1,"leverage" = model1.diag$h, "cooks" = model1.di
```

$\hat{r}^P$	$\hat{r}^D$	leverage	cooks	$\hat{r}^{PS}$	$\hat{r}^{DS}$
3.6466213	3.9408578	0.0129884	0.0136380	3.6705364	3.9667026
1.1347549	1.1476431	0.0165994	0.0017002	1.1442920	1.1572885
4.1646975	4.4523950	0.0257159	0.0361455	4.2193024	4.5107720
-2.0959124	-2.0647135	0.0314565	0.0113312	-2.1296762	-2.0979747
3.1788727	3.3888659	0.0078856	0.0062275	3.1914809	3.4023071
-6.6776807	-6.3470996	0.0318186	0.1164330	-6.7865224	-6.4505531
0.7340477	0.7397781	0.0500102	0.0022968	0.7531211	0.7590004
6.7887240	7.9492349	0.0190259	0.0700910	6.8542411	8.0259519
0.8455803	0.8529591	0.0331794	0.0019523	0.8599673	0.8674715
1.8757664	1.9416867	0.0087842	0.0024198	1.8840596	1.9502714
4.9096944	5.2637653	0.0192229	0.0370547	4.9575751	5.3150990
4.7372737	5.0969748	0.0054898	0.0095818	4.7503307	5.1110233
5.5142059	5.8005899	0.0495412	0.1282691	5.6560901	5.9498429
-1.9135820	-1.8917283	0.0573764	0.0181889	-1.9709605	-1.9484515
8.1882417	10.0100706	0.0249154	0.1351516	8.2921949	10.1371528
2.2187213	2.3837380	0.0062849	0.0024101	2.2257265	2.3912643
-6.1019201	-5.7691961	0.0553832	0.1777692	-6.2782511	-5.9359122
4.6115108	4.7420227	0.0403472	0.0716685	4.7074548	4.8406821
1.1051157	1.1136642	0.0499237	0.0051959	1.1337793	1.1425495
1.6190116	1.6379636	0.0357581	0.0077546	1.6487582	1.6680584
-4.7666332	-4.8039695	0.4124499	2.0881496	-6.2185523	-6.2672613
6.7387018	6.9952898	0.0837344	0.3483937	7.0398847	7.3079408

$\hat{r}^P$	$\hat{r}^D$	leverage	cooks	$\hat{r}^{PS}$	$\hat{r}^{DS}$
-7.6235295	-7.5510439	0.0406364	0.1973867	-7.7833126	-7.7093078
-7.6974007	-7.5552581	0.1767779	1.1888823	-8.4837056	-8.3270429
1.3499511	1.3637183	0.0456182	0.0070208	1.3818374	1.3959298
0.8745143	0.8892101	0.1943612	0.0176165	0.9743090	0.9906818
-6.1757697	-5.9971419	0.0169924	0.0515917	-6.2289186	-6.0487536
1.7431894	1.7670781	0.0475100	0.0122408	1.7861354	1.8106126
8.5983348	8.7176151	0.0646390	0.4201663	8.8904698	9.0138028
4.1943622	4.7966640	0.0194412	0.0273630	4.2357382	4.8439815
6.1991239	7.1652898	0.0117231	0.0354816	6.2357830	7.2076625
7.4354877	7.7810054	0.0557448	0.2658897	7.6518206	8.0073909
4.6528843	4.7524698	0.1939773	0.4972303	5.1826110	5.2935344
7.6082073	8.1258861	0.0223912	0.1043200	7.6948432	8.2184170
1.1120278	1.1244128	0.0825804	0.0093332	1.1609984	1.1739288
4.6767100	5.3178452	0.0137634	0.0238069	4.7092299	5.3548233
6.2700615	6.3987276	0.1288396	0.5133971	6.7177330	6.8555857
-6.2143074	-6.0797343	0.0675079	0.2306251	-6.4353202	-6.2959609
3.4620428	3.7671845	0.0064494	0.0060236	3.4732611	3.7793915
2.6351848	2.6726339	0.0297626	0.0168886	2.6752975	2.7133167
-0.7944460	-0.7862053	0.0279205	0.0014345	-0.8057745	-0.7974162
1.0649190	1.0717544	0.2916925	0.0507191	1.2653354	1.2734572
8.8744870	9.0161790	0.2876405	3.4339559	10.5146214	10.6825002
1.3078677	1.3153133	0.0492472	0.0071685	1.3413126	1.3489486
7.4505285	8.4711691	0.0375247	0.1729694	7.5943794	8.6347259
4.3344211	4.5648557	0.0782401	0.1330800	4.5146304	4.7546456
-0.7379123	-0.7351953	0.0462456	0.0021294	-0.7555905	-0.7528084
1.4483310	1.8365428	0.0005286	0.0000854	1.4487140	1.8370284
2.4100889	2.4504798	0.0662558	0.0339540	2.4941301	2.5359294
-3.7461444	-3.7441747	0.1266312	0.1792136	-4.0085350	-4.0064273
-7.7589625	-7.5634989	0.0750895	0.4064842	-8.0677753	-7.8645321
2.3976842	2.9435122	0.0010592	0.0004694	2.3989550	2.9450724
-1.5484601	-1.5471004	0.0436967	0.0088128	-1.5834422	-1.5820517
-2.2676160	-2.2361462	0.0711201	0.0326039	-2.3528256	-2.3201732
1.9177322	1.9366159	0.0309228	0.0093153	1.9480890	1.9672716
-8.0236671	-7.6460147	0.0274649	0.1438039	-8.1361747	-7.7532270
-14.0917816	-13.1915862	0.1016565	1.9241495	-14.8677309	-13.9179672
3.3251591	3.5924054	0.0265792	0.0238573	3.3702500	3.6411203
9.0480467	9.6350025	0.0314435	0.2110802	9.1937430	9.7901503
2.7594378	2.8070161	0.0496248	0.0321815	2.8305645	2.8793693
7.4523410	8.5293430	0.0919602	0.4764666	7.8206038	8.9508266
9.5070036	10.5967164	0.0226414	0.1647931	9.6164922	10.7187548
12.3517620	13.7772335	0.0609429	0.8110607	12.7462640	14.2172634
4.4960049	5.1770569	0.0086976	0.0137626	4.5156857	5.1997189
4.6989877	5.1469975	0.0199995	0.0353697	4.7466932	5.1992513
4.1968612	4.6007770	0.0145512	0.0203018	4.2277332	4.6346202
4.1878508	4.3734626	0.1300471	0.2318187	4.4899690	4.6889711
6.8231560	7.2851150	0.0592867	0.2399219	7.0348794	7.5111730
-0.5132448	-0.5108279	0.0204677	0.0004323	-0.5185793	-0.5161373
0.6606322	0.6676400	0.0449763	0.0016555	0.6760093	0.6831802
-20.2035486	-19.7472874	0.0943064	3.6098601	-21.2293649	-20.7499374
-22.3755934	-20.9645999	0.0739512	3.3211103	-23.2518561	-21.7856059
-2.8555795	-2.8907073	0.1146077	0.0917038	-3.0347742	-3.0721064
3.5858193	3.8258511	0.0078757	0.0079139	3.6000237	3.8410063

$\hat{r}^P$	$\hat{r}^D$	leverage	cooks	$\hat{r}^{PS}$	$\hat{r}^{DS}$
4.1848195	4.3514382	0.0218420	0.0307528	4.2312845	4.3997532
1.6549658	1.6816886	0.0320744	0.0072129	1.6821628	1.7093248
1.2968208	1.3330568	0.0091897	0.0012110	1.3028208	1.3392245
1.4385770	1.4585606	0.0210077	0.0034893	1.4539299	1.4741268
3.3043978	3.4360324	0.0776428	0.0766557	3.4406679	3.5777310
1.3781808	1.4418114	0.0051399	0.0007588	1.3817364	1.4455312
-0.4042726	-0.4024182	0.0352703	0.0004764	-0.4115963	-0.4097083
0.3326857	0.3337877	0.0188742	0.0001669	0.3358705	0.3369830
6.6870722	7.0456893	0.0397078	0.1481145	6.8239261	7.1898824
4.5615809	4.8108451	0.0474807	0.0837639	4.6738900	4.9292913
1.3324689	1.3438701	0.0457489	0.0068616	1.3640357	1.3757070
3.1076610	3.1862620	0.0606188	0.0510326	3.2063631	3.2874606
-7.0023006	-6.8306339	0.2366400	1.5316785	-8.0144932	-7.8180117
8.8808704	10.2499828	0.0216889	0.1374838	8.9787741	10.3629797
5.3568003	5.4928400	0.0837416	0.2201775	5.5962419	5.7383623
3.0330972	3.0690436	0.0862662	0.0731191	3.1730468	3.2106518
11.5345083	13.7121354	0.0345518	0.3793739	11.7390944	13.9553459
10.1666752	11.2436510	0.0561016	0.5006556	10.4644478	11.5729672
10.6941591	12.1287483	0.0407330	0.3894189	10.9188495	12.3835804
-6.7284591	-6.6264120	0.0330175	0.1229688	-6.8423661	-6.7385915
-11.9656674	-11.4951871	0.0927805	1.2415448	-12.5626348	-12.0686822
3.6684901	3.9651498	0.0151431	0.0161622	3.6965858	3.9955175
6.1684597	6.4525488	0.0180244	0.0547105	6.2248142	6.5114987
-6.7015877	-6.3358915	0.0342932	0.1270367	-6.8195396	-6.4474070
3.8922327	4.2234620	0.0177164	0.0213972	3.9271760	4.2613790
3.3188604	3.3771813	0.0926095	0.0953019	3.4841101	3.5453348
4.5589506	5.0623389	0.0119319	0.0195399	4.5863950	5.0928137
8.0375739	8.5936692	0.0328253	0.1743833	8.1728307	8.7382840
10.8905989	13.5872113	0.0312553	0.3038544	11.0648900	13.8046584
2.7337236	2.9749642	0.0060739	0.0035345	2.7420638	2.9840404
3.8523495	4.0605558	0.0243674	0.0292244	3.9001611	4.1109514
4.8751328	5.2205183	0.0196961	0.0374703	4.9238643	5.2727023
9.9783272	10.9272059	0.0418148	0.3488214	10.1937272	11.1630892
-5.0822712	-5.0593731	0.0783233	0.1831919	-5.2938122	-5.2699611
-4.1073216	-3.9279434	0.0384809	0.0540136	-4.1887047	-4.0057722
-0.9197741	-0.9089630	0.0137047	0.0009168	-0.9261423	-0.9152563
3.4162546	3.6359246	0.0085193	0.0077802	3.4309002	3.6515120
2.3447570	2.3799321	0.0218773	0.0096707	2.3708341	2.4064004
2.4145491	2.5258766	0.0094298	0.0043098	2.4260146	2.5378707
0.4550463	0.4567559	0.0750247	0.0013967	0.4731409	0.4749185
-8.4575215	-8.0157033	0.0184841	0.1055714	-8.5367869	-8.0908278
3.4752147	3.6985799	0.0177708	0.0171120	3.5065112	3.7318879
-15.1868731	-14.7099985	0.0930278	2.0064043	-15.9467207	-15.4459865
-0.7163191	-0.7134714	0.0335096	0.0014159	-0.7286312	-0.7257345
-3.0777160	-3.0033764	0.0203448	0.0154461	-3.1095096	-3.0344021
-6.3800611	-6.2552850	0.0534449	0.1867760	-6.5577053	-6.4294549
-10.5294188	-10.1436560	0.0443541	0.4141949	-10.7709966	-10.3763832
4.2469901	4.3050157	0.0914312	0.1536732	4.4555605	4.5164358
6.3483402	6.4164198	0.0636255	0.2249620	6.5604768	6.6308313
-5.0397478	-4.8838829	0.0205660	0.0418864	-5.0923848	-4.9348919
1.9890724	2.1088544	0.0054014	0.0016618	1.9944661	2.1145730
8.8179837	10.0598418	0.0178060	0.1103992	8.8975543	10.1506185

$\hat{r}^P$	$\hat{r}^D$	leverage	cooks	$\hat{r}^{PS}$	$\hat{r}^{DS}$
-9.9402869	-9.0321465	0.0113159	0.0879891	-9.9970104	-9.0836878
-5.6324626	-5.5106074	0.0580970	0.1598066	-5.8035701	-5.6780130
3.6836137	3.9109146	0.0223303	0.0243845	3.7254436	3.9553256
1.6312134	1.6491914	0.0272138	0.0058862	1.6538727	1.6721004
6.2997896	6.4141203	0.1073777	0.4114220	6.6679478	6.7889599
-5.7543053	-5.5427348	0.0287695	0.0776839	-5.8389097	-5.6242284
-0.1995561	-0.1995898	0.0615373	0.0002140	-0.2059950	-0.2060297
0.7606855	0.7667518	0.0148911	0.0006830	0.7664132	0.7725252
-8.5594332	-8.6010210	0.0724707	0.4747380	-8.8875323	-8.9307143
-3.6556686	-3.5465297	0.0174666	0.0185996	-3.6880191	-3.5779144
2.1041261	2.1340681	0.0634613	0.0246410	2.1742472	2.2051870
1.1929224	1.1955650	0.1443668	0.0215861	1.2896396	1.2924965
-2.7076349	-2.6855415	0.0754103	0.0497473	-2.8158893	-2.7929125
-0.9130064	-0.9106744	0.0756467	0.0056770	-0.9496309	-0.9472053
0.0551972	0.0552001	0.2021723	0.0000744	0.0617963	0.0617996
-12.0082544	-11.7607534	0.0592934	0.7432148	-12.3809162	-12.1257342
-6.8885330	-6.5924980	0.0278647	0.1076246	-6.9865600	-6.6863123
1.4082100	1.4267948	0.0192717	0.0030564	1.4219786	1.4407451
-10.8171072	-10.2739304	0.0475297	0.4715645	-11.0837166	-10.5271521
0.0532153	0.0532436	0.0110643	0.0000025	0.0535122	0.0535406
2.1102259	2.1654242	0.0436789	0.0163598	2.1578789	2.2143236
-10.0004263	-9.6190113	0.0606686	0.5289564	-10.3183223	-9.9247828
8.3945959	8.3018067	0.1140016	0.7872294	8.9183257	8.8197474
7.3454513	7.9115861	0.0525577	0.2430103	7.5464397	8.1280652
1.6274746	1.6437346	0.0724896	0.0171681	1.6898759	1.7067594
-0.2283153	-0.2279701	0.0890583	0.0004303	-0.2392157	-0.2388541
4.1443920	4.1942868	0.0837337	0.1317756	4.3296218	4.3817466
5.2130854	5.5859388	0.0311698	0.0694201	5.2962809	5.6750847
4.9533884	5.1644473	0.0302761	0.0607667	5.0301199	5.2444482
-3.1197972	-3.1229271	0.1255578	0.1229393	-3.3362670	-3.3396140
-0.1027129	-0.1025978	0.0812505	0.0000781	-0.1071585	-0.1070384
5.4722427	5.7473203	0.0146573	0.0347749	5.5127931	5.7899091
0.3878849	0.3899347	0.0081183	0.0000955	0.3894691	0.3915272
4.2251437	5.4926321	0.0045228	0.0062674	4.2347311	5.5050956
5.7374604	5.8770639	0.0165831	0.0434196	5.7856328	5.9264084
-1.4843701	-1.4563426	0.0200543	0.0035395	-1.4994818	-1.4711690
-3.2460241	-3.2043664	0.0279279	0.0239553	-3.2923236	-3.2500717
1.6935781	1.7166787	0.0610348	0.0152738	1.7477548	1.7715943
-7.6405255	-7.4642137	0.0311668	0.1491069	-7.7624485	-7.5833232
-1.2902043	-1.2809249	0.0600520	0.0087035	-1.3307809	-1.3212097
3.3547292	3.4685493	0.0295486	0.0271619	3.4054192	3.5209591
2.4641407	2.5387413	0.0264383	0.0130285	2.4973751	2.5729818
-1.0826636	-1.0771968	0.0459464	0.0045515	-1.1084272	-1.1028302
-2.1392506	-2.1110599	0.0438367	0.0168793	-2.1877397	-2.1589100
-3.0093849	-2.9996678	0.0846237	0.0703566	-3.1454147	-3.1352583
-0.8449123	-0.8389634	0.1184693	0.0083717	-0.8998973	-0.8935612
-0.2792278	-0.2790949	0.0742727	0.0005198	-0.2902131	-0.2900751
0.2174068	0.2178150	0.0212043	0.0000805	0.2197491	0.2201617
-0.3117452	-0.3114112	0.0212618	0.0001659	-0.3151131	-0.3147755
-1.7115224	-1.6969091	0.0577933	0.0146692	-1.7632322	-1.7481774
2.3627641	2.4141184	0.0521743	0.0249400	2.4269237	2.4796725
-8.1347559	-8.0443319	0.1624469	1.1787789	-8.8887019	-8.7898973

$\hat{r}^P$	$\hat{r}^D$	leverage	cooks	$\hat{r}^{PS}$	$\hat{r}^{DS}$
-7.2986037	-7.1151613	0.0364356	0.1608053	-7.4353156	-7.2484371
-4.4428320	-4.3017898	0.0127106	0.0197994	-4.4713396	-4.3293924
-6.3898351	-6.2000209	0.0576181	0.2037704	-6.5822775	-6.3867467
1.8643780	1.9072959	0.0145289	0.0040001	1.8780711	1.9213042
-0.3465011	-0.3465986	0.1402609	0.0017525	-0.3736984	-0.3738036
-8.7877847	-8.3761097	0.1970558	1.8156581	-9.8070126	-9.3475906
3.6028180	3.7040960	0.0384482	0.0415214	3.6741424	3.7774253
4.9160898	5.2121706	0.0197367	0.0381844	4.9653337	5.2643803
-9.4874767	-9.4271665	0.1300463	1.1897723	-10.1719134	-10.1072524
5.1024315	5.1415561	0.1746847	0.5136012	5.6165190	5.6595856
1.5268693	1.5555518	0.0236159	0.0044425	1.5452243	1.5742516
2.3909376	2.4791203	0.0228607	0.0105286	2.4187445	2.5079528
-9.5228245	-9.1444209	0.0534196	0.4158856	-9.7878437	-9.3989092
2.4022468	2.4586250	0.0334183	0.0158781	2.4434212	2.5007656
4.0537599	4.2628977	0.0616102	0.0884421	4.1847198	4.4006141
2.8633724	3.0363462	0.0232065	0.0153397	2.8971865	3.0722030
1.4386167	1.4572227	0.0281134	0.0047384	1.4592756	1.4781487
1.3234499	1.3284266	0.0198670	0.0027863	1.3367955	1.3418225
2.5155664	2.6816877	0.0117951	0.0058794	2.5305346	2.6976443
3.1803612	3.2854275	0.0227187	0.0185078	3.2171155	3.3233961
-9.9376066	-9.1568891	0.0468561	0.3918048	-10.1789404	-9.3792632
-6.2715537	-6.0638727	0.1338480	0.5397971	-6.7387304	-6.5155790
-5.5359714	-5.4693831	0.0232449	0.0574381	-5.6014568	-5.5340808
4.4734570	5.0467123	0.0067943	0.0106025	4.4887318	5.0639445
1.2513047	1.2596734	0.0468277	0.0062079	1.2816734	1.2902452
2.1546259	2.1805530	0.0165896	0.0061259	2.1727236	2.1988684
-11.6375639	-11.4705935	0.0544012	0.6338345	-11.9676432	-11.7959370
-4.4180144	-4.2866667	0.0457758	0.0754825	-4.5227431	-4.3882818
0.5092543	0.5120673	0.0174113	0.0003598	0.5137464	0.5165843
1.9985387	2.0108715	0.0880638	0.0325350	2.0928125	2.1057271
-7.0483783	-6.7691198	0.1983341	1.1793583	-7.8721346	-7.5602387
0.4367143	0.4398489	0.0193836	0.0002957	0.4410094	0.4441748
4.2114465	4.3125661	0.0644790	0.1005150	4.3541615	4.4587077
-7.0737536	-6.5899669	0.0128894	0.0509164	-7.1197873	-6.6328523
1.5238385	1.5417594	0.1862438	0.0502375	1.6892417	1.7091078
-2.9430559	-2.8957459	0.0245977	0.0172258	-2.9799338	-2.9320309
2.3622277	3.0803020	0.0010799	0.0004645	2.3635042	3.0819666
-1.3896056	-1.3748419	0.0620934	0.0104849	-1.4348674	-1.4196228
-3.5285194	-3.4828176	0.0477443	0.0504262	-3.6158943	-3.5690608
-1.3368067	-1.3319301	0.0489268	0.0074355	-1.3707607	-1.3657602
-7.1046278	-6.8648177	0.0477076	0.2042614	-7.2804156	-7.0346719
2.6017851	2.6449433	0.0491418	0.0283021	2.6681703	2.7124297
-1.0516025	-1.0419564	0.0123058	0.0010731	-1.0581332	-1.0484272
1.8635304	2.4017751	0.0008559	0.0002290	1.8643284	2.4028036
2.9960158	3.0375860	0.1159521	0.1024405	3.1864434	3.2306557
2.3049613	2.3940264	0.0108405	0.0045279	2.3175572	2.4071090
-3.9708488	-3.9166042	0.0560098	0.0762346	-4.0869527	-4.0311220
4.6716070	4.9159113	0.0289924	0.0516213	4.7408367	4.9887614
0.6767884	0.6813112	0.0276705	0.0010312	0.6863508	0.6909375
4.3110236	4.6486415	0.0139755	0.0205499	4.3414675	4.6814696
-5.4238150	-5.2287901	0.0361382	0.0880244	-5.5245573	-5.3259099
7.1239054	7.5253386	0.0420311	0.1787971	7.2785091	7.6886543

$\hat{r}^P$	$\hat{r}^D$	leverage	cooks	$\hat{r}^{PS}$	$\hat{r}^{DS}$
0.3634565	0.3640903	0.0630745	0.0007301	0.3754913	0.3761461
0.6958681	0.7003195	0.0132656	0.0005075	0.7005301	0.7050113
3.5104196	3.8393074	0.0112224	0.0108809	3.5302847	3.8610337
-12.6384398	-12.8772464	0.0961302	1.4457454	-13.2935365	-13.5447213
11.0164718	11.9101148	0.1107151	1.3069729	11.6821307	12.6297712
12.6985466	13.8756930	0.1009784	1.5497196	13.3927254	14.6342217
-8.9556218	-8.3385399	0.0331819	0.2190080	-9.1080071	-8.4804252
4.9898653	5.3886237	0.0389496	0.0807689	5.0899759	5.4967345
2.3644498	2.3725636	0.1863901	0.1210897	2.6213317	2.6303271
1.7337931	1.7696440	0.0201084	0.0048425	1.7514923	1.7877092