

K-means clustering:

```
. cluster kmeans S40_D50 S40_D90 S75_D20 S75_D50 S91_D30 S91_D50, k(9)
name(cl1)

. tabstat S40_D50 S40_D90 S75_D20 S75_D50 S91_D30 S91_D50, by( cl1 )
```

K-medians clustering:

```
. cluster kmedians S40_D50 S40_D90 S75_D20 S75_D50 S91_D30 S91_D50,
k(9) name(cl2)
```

Multivariate regression:

```
. xi: mvreg S40_D50 S40_D90 S75_D20 S75_D50 S91_D30 S91_D50 = i.cl1
```

Canonical linear discriminant analysis

```
. candisc S40_D50 S40_D90 S75_D20 S75_D50 S91_D30 S91_D50, group(Ion)
. scoreplot, msymbol(i)
. loadingplot
. estat grsummarize
. estat grdistances
. estat manova
```

Leave-One-Out Cross Validation (K-fold cross validated N times)

```
. estat classtable, probabilities loo
```

Classification Function coefficients (for direct classification of new data - observation is classified as a member of the group for which it has the highest score)

```
. estat classfunction
```

