autoPROC reference card	
set up (if not already done for you automatically)	
Set up for csh or tcsh	**source /some/where/autoPROC/installed/setup.csh**
Set up for bash, ksh, zsh, or sh	**. /some/where/autoPROC/installed/setup.sh**
autoPROC: most useful options	
Brief help message	**process -h**
Simple run (in directory containing images)	**process -d outputdir > log** - or - **process -d outputdir | tee log**
Simple run (remote directory)	process -d outputdir **-I imagedir** > log
Read image header information	**imginfo test_0123.img**
Manual sweep definition	process **-Id "test,/where/ever/images,test_###.cbf,1,90"** -d outputdir > log
Manual sweep definition for HDF5/Eiger data	process -Id "test,/where/ever,**test_master.h5**,1,900" -d outputdir > log
Define cell and symmetry	process **cell="a b c al be ga" symm="P2"** -d outdir > log
Include "reference" file for symm, cell and test-set	process **-ref mtzfile** -d outputdir > log
List available "macros"	process **-M list**
Handle rotation axis	process **ReverseRotationAxis=yes** **see [4]**
Manual mask damaged pixels	process **autoPROC_Img2Xds_DamagedPixels**="X,Y" **see [4]**
Settings that might help difficult diffraction data	process **-M LowResOrTricky** -d outputdir > log
Process in "fast" mode	process **-M fast** -d outputdir > log
Restrict number of "processors"	process **-nthreads <no>** -d outputdir > log
Restrict resolution range	process **-R 50.0 2.0** -d outputdir > log
Switch off detection/exclusion of ice-ring resolution ranges	process **XdsExcludeIceRingsAutomatically=no** -d outputdir > log
Exclude all known ice-ring resolution ranges from the start	process **XdsExcludeIceRingsAutomatically=all** -d outputdir > log
AIMLESS-only scaling path	process **-M ScalingA3** -d outputdir > log
XSCALE-only scaling path	process **-M ScalingX** -d outputdir > log
Process Dectris/Eiger data (HDF5 format)	process **-h5 /where/ever/some_master.h5** -d outdir > log
Check beam centre conventions	**beam8.sh <beamX> <beamY> <sizeX> <sizeY>**
Define direct beam transform	process **BeamCentreFrom="header:y,-x"** -d outputdir > log
Let autoPROC determine most likely direct beam transform	process **BeamCentreFrom="getbeam:init"** -d outputdir > log *(might not always work for Pilatus/Eiger images)*
Define direct beam position	process **beam="1556 1512"** -d outputdir > log
Identify image scans	**find_images -d imagedir -l**
Identify HDF5/Eiger scans	find_images -d imagedir -l **-h5**
List known multi-axis goniostats	**x_kappa -list**
Process multi sweep data collected with different goniostat/2-theta settings	process **KapparotSite="siteID"** -d outputdir > log

autoPROC reference card	
Looking at results	
Open outputdir/summary.html in browser, e.g.	**firefox outputdir/summary.html**
Traditional (isotropic) results	**truncate-unique.mtz** **truncate-unique.table1** **aimless.sca** **autoPROC.xml** **report.pdf**
Anisotropic (STARANISO) results	**staraniso_alldata-unique.mtz** **staraniso_alldata-unique.table1** **staraniso_alldata.sca** **autoPROC_staraniso.xml** **report_staraniso.pdf**
helper programs and options	
Scaling module: help message	**aP_scale -h**
Simple scaling of data set with 360 batches/images	aP_scale **-mtz XDS_ASCII.mtz -P lyso test A -b 1-360 ** **-id 01 > log**
More detailed scaling of 'early' and 'late' batches	aP_scale -mtz XDS_ASCII.mtz \ -P lyso test **early** -b **1-180 ** -P lyso test **late** -b **181-360** \ -id 02 > log
Allowing different high-resolution limit for decaying crystal	aP_scale -mtz XDS_ASCII.mtz \ -P lyso test **early** -b **1-180,30** \ -P lyso test **late** -b **181-360,30** \ -id 03 > log
Use XSCALE for scaling	aP_scale **-hkl XDS_ASCII.HKL** ...
Compare indexing of datasets	**check_indexing -v mtzfile1 mtzfile2 ... mtzfileN**
Compare orientation matrices	**cmpmat 01/XPARM.XDS 02/XPARM.XDS P21**
Combine integrated intensities from several scans manually	**combine_files** -f 01/XDS_ASCII.**mtz** -P lyso test **lowres** \ -f 02/XDS_ASCII.**HKL** -P lyso test **highres ** -o low-high.**mtz**
Calculate statistics on unmerged data	**mrfana** INTEGRATE.**HKL** - or - **mrfana** XDS_ASCII.**HKL** - or - **mrfana XDS_ASCII.mtz**
Analyse for damaged pixels	**aP_detect_damaged_pixels** *01.cbf
further information	
[1] autoPROC homepage	**https://www.globalphasing.com/autoproc/**
[2] autoPROC manual	**$autoPROC_home/docs/autoproc/manual/autoPROC0.html** - or - **https://www.globalphasing.com/autoproc/manual/index.html**
[3] autoPROC wiki	**https://www.globalphasing.com/autoproc/wiki/**
[4] beamline information	**https://www.globalphasing.com/autoproc/wiki/index.cgi?BeamlineSettings**