



15255 - The KELT-11b Opportunity: Measuring the Atmospheric Water Abundance for a Sub-Saturn-Mass Planet around a Metal-Rich Star

Cycle: 25, Proposal Category: GO
(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) HD-93396	WFC3/IR	9	23-Feb-2018 17:10:14.0	yes

9 Total Orbits Used

ABSTRACT

Measurements of exoplanet atmosphere composition provide an unparalleled window into planetary nature and origins. Water in particular is an important tracer of the planet formation process because it is a dominant component by mass of icy planetesimals. Exoplanets provide the opportunity to measure water abundance over a wide range of planet masses and thereby test predictions of planet population synthesis models. So far, however, precise constraints on water abundance have been limited to Jupiter-mass objects.

Here we propose to measure the transmission spectrum of the recently discovered low density sub-Saturn KELT-11b with HST/WFC3. We will use this measurement to determine the planet's atmospheric water abundance. KELT-11b is one of the few Saturn-mass planets for which we can obtain constraints on the water abundance with a modest amount of telescope time. Our results will enable meaningful comparison with both objects in the Solar System and with the other few planets in the sub-Saturn population. This program will also be the first investigation of the metal enhancement of a planet with a metal-rich host star. Even if the atmosphere is cloudy, our data will be sufficiently precise to detect water above a 1 mbar cloud-deck, and will constrain cloud physics in a new regime of surface gravity. These measurements will set the stage for comparative planetology that will be possible with JWST.

OBSERVING DESCRIPTION

We will obtain time series spectroscopy of the KELT-11b planetary system with the WFC3 instrument during one transit of the planet. We will use the G141 grism and the 512x512 subarray. The observation will consist of 9 sequential HST orbits to obtain quasi-continuous coverage of the planet's transit. Nine orbits are required to observe the transit and measure the out-of-transit baseline flux level. In addition, based on a recent paper by Zhou et al. (2017) which includes a new systematics model of WFC3 data, it is no longer necessary to discard the first orbit in a visit in order to decrease instrument systematics in the data. The observation duration is longer than usual for exoplanet transit spectroscopy because the transit duration is over 7.0 hours thanks to the slightly evolved host star.

We will obtain a direct image of the target star with the F130N filter at the beginning of each orbit for wavelength calibration. The remainder of each orbit will consist of 46.696 s exposures with the NSAMP = 3, SPARS25 readout pattern. To keep the fluence below saturation, we will use spatial scan mode with a 0.96 arcsec/sec scan rate (yielding a total scan height of 345 pixels). Using past WFC3 observations of similar targets as a

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benchmark, we estimate the maximum expected per pixel counts to be below 40k electrons. To maximize the duty cycle of the observations, we will alternate between forward and reverse scanning along the detector. This is the same observational strategy we used extensively for transit/eclipse observations in our programs in Cycles 20, 21, 22, and 23 which yielded photon-noise limited light curves.

The proposed observations are time-critical and must be centered on the transit of the planet. Transits occur often (every 4.7 days), so there are many opportunities to observe the planet. The observations must also be scheduled to avoid crossing the South Atlantic Anomaly.

The observations will not need to be coordinated with other observatories. When the HST observations are scheduled, we will arrange for simultaneous ground-based optical and IR photometry in order to trace the intrinsic variability of the system. These observations will be performed with small-to-mid-sized telescopes which are easily accessible to the world-wide KELT network of collaborators of the proposers.

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Visit	Proposal 15255, Visit 01, implementation Fri Feb 23 22:10:25 GMT 2018 Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: Period 4.73610 D AND ZERO-PHASE HJD2457483.430228																
	Diagnosics (Visit 01) Warning (Orbit Planner): LONG SU LIKELY TO INTERSECT THE SAA																
Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>HD-93396</td> <td>RA: 10 46 49.7407 (161.7072529d) Dec: -09 23 56.49 (-9.39902d) Equinox: J2000</td> <td>Proper Motion RA: -78.3 mas/yr Proper Motion Dec: -77.61 mas/yr Epoch of Position: 2000</td> <td>V=8.04 H = 6.251</td> <td>Reference Frame: SIMBAD</td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	HD-93396	RA: 10 46 49.7407 (161.7072529d) Dec: -09 23 56.49 (-9.39902d) Equinox: J2000	Proper Motion RA: -78.3 mas/yr Proper Motion Dec: -77.61 mas/yr Epoch of Position: 2000	V=8.04 H = 6.251	Reference Frame: SIMBAD
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Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=STAR Description=[EXTRA-SOLAR PLANETARY SYSTEM]																	

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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9; PHASE 0.9310 TO 0.9355	Sequence 1-17 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[1]
	2		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 1-17 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[1]
	3		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPARS25	POS TARG -16.5,-27.5; SPATIAL SCAN 0.96,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[1]
	4		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPARS25	POS TARG -16.5,-27.5; SPATIAL SCAN 0.96,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[1]
	5		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPARS25	POS TARG -16.5,-27.5; SPATIAL SCAN 0.96,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[1]
	6		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPARS25	POS TARG -16.5,-27.5; SPATIAL SCAN 0.96,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[1]
	7		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPARS25	POS TARG -16.5,-27.5; SPATIAL SCAN 0.96,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[1]
	8		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPARS25	POS TARG -16.5,-27.5; SPATIAL SCAN 0.96,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[1]
	9		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPARS25	POS TARG -16.5,-27.5; SPATIAL SCAN 0.96,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[1]
	10		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPARS25	POS TARG -16.5,-27.5; SPATIAL SCAN 0.96,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[1]
11		(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPARS25	POS TARG -16.5,-27.5; SPATIAL SCAN 0.96,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[1]	

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12	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[1]
13	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[1]
14	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[1]
15	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[1]
16	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[1]
17	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 1-17 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[1]
18	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 18-34 Non-Int in Visit 01	2.559081 Secs (2.559 Secs)	[==>]	[2]
19	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[2]
20	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[2]
21	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[2]
22	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs)	[==>(Forward)] [==>(Reverse)]	[2]

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23	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
24	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
25	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
26	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
27	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
28	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
29	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
30	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
31	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
32	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]
33	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[2]

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34	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Forward	Sequence 18-34 Non-Int in Visit 01	46.695529 Secs (46.696 Secs) [==>]	[2]
35	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 35-51 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[3]
36	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
37	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
38	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
39	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
40	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
41	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
42	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
43	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
44	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]

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45	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
46	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
47	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
48	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
49	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
50	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[3]
51	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Forward	Sequence 35-51 Non-Int in Visit 01	46.695529 Secs (46.696 Secs) [==>]	[3]
52	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 52-69 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[4]
53	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 52-69 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[4]
54	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 52-69 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[4]
55	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 52-69 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[4]
56	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]

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57	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
58	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
59	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
60	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
61	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
62	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
63	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
64	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
65	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
66	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
67	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]

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68	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
69	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 52-69 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[4]
70	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9; NEW OBSET	Sequence 70-86 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[5]
71	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
72	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
73	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
74	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
75	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
76	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
77	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
78	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]

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79	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
80	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
81	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
82	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
83	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
84	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
85	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[5]
86	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Forward	Sequence 70-86 Non-Int in Visit 01	46.695529 Secs (46.696 Secs) [==>]	[5]
87	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 87-103 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[6]
88	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
89	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]

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90	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
91	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
92	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
93	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
94	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
95	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
96	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
97	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
98	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
99	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
100	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 No n-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]

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101	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
102	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 87-103 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[6]
103	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Forward	Sequence 87-103 Non-Int in Visit 01	46.695529 Secs (46.696 Secs) [==>]	[6]
104	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 104-120 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[7]
105	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
106	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
107	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
108	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
109	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
110	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
111	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]

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112	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
113	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
114	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
115	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
116	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
117	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
118	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
119	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[7]
120	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Forward	Sequence 104-120 Non-Int in Visit 01	46.695529 Secs (46.696 Secs) [==>]	[7]
121	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=12; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 121-135 Non-Int in Visit 01	10.236324 Secs (10.236 Secs) [==>]	[8]
122	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=10; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 121-135 Non-Int in Visit 01	8.53027 Secs (8.53 Secs) [==>]	[8]
123	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=6; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 121-135 Non-Int in Visit 01	5.118162 Secs (5.118 Secs) [==>]	[8]

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124	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
125	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
126	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
127	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
128	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
129	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
130	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
131	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
132	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
133	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
134	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]

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135	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 121-135 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[8]
136	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	F130N	NSAMP=3; SAMP-SEQ=RAPID	POS TARG 0,-9	Sequence 136-148 Non-Int in Visit 01	2.559081 Secs (2.559 Secs) [==>]	[9]
137	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 136-148 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
138	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 136-148 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
139	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 136-148 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
140	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 136-148 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
141	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 136-148 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
142	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 136-148 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
143	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 136-148 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
144	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 136-148 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
145	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Round trip	Sequence 136-148 Non-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]

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146	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Roun d trip	Sequence 136-148 N on-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
147	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Roun d trip	Sequence 136-148 N on-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]
148	(1) HD-93396	WFC3/IR, MULTIACCUM, GRISM512	G141	NSAMP=3; SAMP-SEQ=SPAR S25	POS TARG -16.5,-2 7.5; SPATIAL SCAN 0.9 6,90.0 Degrees,Roun d trip	Sequence 136-148 N on-Int in Visit 01	46.695529 Secs (93.391 Secs) [==>(Forward)] [==>(Reverse)]	[9]

















