

MM013C Correlation Report

General information

- A part of [C181D](#)
- **No ALMA participation** in this part
- Targets: BLLAC, 2013+370
- Session info: <http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/>
- Station feedback: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/apr18/feedback_apr18.asc
- GBT calibration info (Tsys files for download) and other related information for this session can be found here:
<https://safe.nrao.edu/wiki/bin/view/GB/Observing/WbandVLBACal/C181>
- Because this experiment was processed together with ALMA observations, *special processing* was applied to all data in order to correlate mismatching frequency setups of ALMA and other GMVA stations. See details [here](#). This should not have influenced non-ALMA scans.

Current Status

Correlation finished, **released** on 10/12/2018.

A **second** data release, with a problem, spotted in the original release, corrected, was made on 31/01/2019.

Fringes

Station	Code	Fringes	Plots	Comments
Ef	B	yes	<p>Fringe overview (including all of C181D) of all baselines including Ef in LL (left for each baseline) and RR (right for each baseline). Legend: white - scheduled, but no data, blue - no fringe, red-green - fringes of different quality. D -- fourfit error, in this case due to mixing upper and lower subbands in the KVN compatibility mode, no real problem with the data.</p> <p>Scans 18-20, 24-26, 28-29, 31, 33, 35-36 are missing from all diagnostic plots due to a difx2mark4 error. They are present in the final correlation products.</p> <p>c181d_FRINGE_RfAnt_Ef_LLRR_AllSrc.pdf</p> <p>Examples of fourfit fringe plots:</p> <p>Diagnostic fringe plots only to KVN due to a fourfit problem.</p> <p>c181d_No0052_2013+370_Bt_RL.pdf, c181d_No0052_2013+370_Bt_RR.pdf, no LL or LR fringe</p> <p>c181d_No0052_2013+370_Bu_RL.pdf, c181d_No0052_2013+370_Bu_RR.pdf, no LL or LR fringe</p> <p>c181d_No0052_2013+370_By_RL.pdf, c181d_No0052_2013+370_By_RR.pdf, no LL or LR fringe</p> <p>Same for all antennas below unless otherwise noted.</p>	<p>in the plots Ef is "missing" all the baselines except to ALMA, GLT and KVN. This is due to a fourfit error, the baselines are missing only from some of the diagnostic plots, but are present in the final correlation products.</p>
On	X	yes	<p>c181d_FRINGE_RfAnt_On_LLRR_AllSrc.pdf</p>	<p>in the plots On is "missing" all</p>

Station	Code	Fringes	Plots	Comments
			<p>Diagnostic fringe plots only to KVN due to a fourfit problem.</p> <p>c181d_No0041_2013+370_tX_LL.pdf, c181d_No0041_2013+370_tX_LR.pdf, c181d_No0041_2013+370_tX_RL.pdf, c181d_No0041_2013+370_tX_RR.pdf</p> <p>c181d_No0041_2013+370_uX_LL.pdf, c181d_No0041_2013+370_uX_LR.pdf, c181d_No0041_2013+370_uX_RL.pdf, c181d_No0041_2013+370_uX_RR.pdf</p> <p>c181d_No0041_2013+370_yX_LL.pdf, c181d_No0041_2013+370_yX_LR.pdf, c181d_No0041_2013+370_yX_RL.pdf, c181d_No0041_2013+370_yX_RR.pdf</p>	<p>the baselines except to ALMA, GLT and KVN. This is due to a fourfit error, the baselines are missing only from some of the diagnostic plots, but are present in the final correlation products.</p>
Ys	Y	yes	<p>c181d_FRINGE_RfAnt_Ys_LLRR_AllSrc.pdf</p> <p>No diagnostic fringe plots for this antenna in this experiment due to a fourfit problem.</p>	<p>As usual, Ys observed LCP only, but it was also recorded as fake RCP, that's why there are common Ys "right" to other antenna's left fringes.</p> <p>in the plots Ys is "missing" all the baselines except to ALMA, GLT and KVN. This is due to a fourfit error, the baselines are missing only from some of the diagnostic plots, but are present in the final</p>

Station	Code	Fringes	Plots	Comments
				correlation products.
Mh	Z	yes	c181d_FRINGE_RfAnt_Mh_LLRR_AllSrc.pdf No diagnostic fringe plots for this antenna in this experiment due to a fourfit problem.	in the plots Mh is "missing" all the baselines except to ALMA, GLT and KVN. This is due to a fourfit error, the baselines are missing only from some of the diagnostic plots, but are present in the final correlation products.
Pv	P	yes	c181d_FRINGE_RfAnt_Pv_LLRR_AllSrc.pdf No diagnostic fringe plots for this antenna in this experiment due to a fourfit problem.	in the plots Pv is "missing" all the baselines except to ALMA, GLT and KVN. This is due to a fourfit error, the baselines are missing only from some of the diagnostic plots, but are present in the final correlation products.
VLBA: Br	b	yes	c181d_FRINGE_RfAnt_Br_LLRR_AllSrc.pdf c181d_No0010_BLLAC_bf_LL.pdf , c181d_No0010_BLLAC_bf_RR.pdf , no LR or RL fringe c181d_No0012_BLLAC_bl_LL.pdf , c181d_No0012_BLLAC_bl_RR.pdf , no LR or RL fringe	Baselines to EVN stations are "missing" due to a fourfit error. They are present in the final

Station	Code	Fringes	Plots	Comments
			c181d_No0012_BLLAC_bp_LL.pdf , c181d_No0012_BLLAC_bp_RR.pdf , no LR or RL fringe	correlation products.
VLBA: Fd	f	yes	c181d_FRINGE_RfAnt_Fd_LLRR_AllSrc.pdf c181d_No0010_BLLAC_bf_LL.pdf , c181d_No0010_BLLAC_bf_RR.pdf , no LR or RL fringe c181d_No0010_BLLAC_fk_LL.pdf , c181d_No0010_BLLAC_fk_RR.pdf , no LR or RL fringe c181d_No0010_BLLAC_fl_LL.pdf , c181d_No0010_BLLAC_fl_LR.pdf , c181d_No0010_BLLAC_fl_RL.pdf , c181d_No0010_BLLAC_fl_RR.pdf c181d_No0010_BLLAC_fo_LL.pdf , c181d_No0010_BLLAC_fo_RR.pdf , no LR or RL fringe c181d_No0010_BLLAC_fp_LL.pdf , c181d_No0010_BLLAC_fp_RR.pdf , no LR or RL fringe c181d_No0012_BLLAC_fk_LL.pdf , c181d_No0012_BLLAC_fk_RR.pdf , no LR or RL fringe c181d_No0012_BLLAC_fl_LL.pdf , c181d_No0012_BLLAC_fl_LR.pdf , np RL fringe, c181d_No0012_BLLAC_fl_RR.pdf c181d_No0012_BLLAC_fo_LL.pdf , c181d_No0012_BLLAC_fo_RR.pdf , no LR or RL fringe c181d_No0012_BLLAC_fp_LL.pdf , c181d_No0012_BLLAC_fp_RR.pdf , no LR or RL fringe	Baselines to EVN stations are "missing" due to a fourfit error. They are present in the final correlation products.
VLBA: Kp	k	yes	c181d_FRINGE_RfAnt_Kp_LLRR_AllSrc.pdf c181d_No0010_BLLAC_fk_LL.pdf , c181d_No0010_BLLAC_fk_RR.pdf , no LR or RL fringe c181d_No0012_BLLAC_fk_LL.pdf , c181d_No0012_BLLAC_fk_RR.pdf , no LR or RL fringe c181d_No0010_BLLAC_kl_LL.pdf , c181d_No0010_BLLAC_kl_RR.pdf , no LR or RL fringe c181d_No0010_BLLAC_ko_LL.pdf , c181d_No0010_BLLAC_ko_RR.pdf , no LR or RL fringe	Baselines to EVN stations are "missing" due to a fourfit error. They are present in the final correlation products.

Station	Code	Fringes	Plots	Comments
			<p>c181d No0010 BLLAC kp LL.pdf, c181d No0010 BLLAC kp RR.pdf,</p> <p>no LR or RL fringe</p> <p>c181d No0012 BLLAC kl LL.pdf, c181d No0012 BLLAC kl RR.pdf,</p> <p>no LR or RL fringe</p> <p>c181d No0012 BLLAC ko LL.pdf, c181d No0012 BLLAC ko RR.pdf,</p> <p>no LR or RL fringe</p> <p>c181d No0012 BLLAC kp LL.pdf, c181d No0012 BLLAC kp RR.pdf,</p> <p>no LR or RL fringe</p>	
VLBA: La	l	yes	<p>c181d FRINGE RfAnt La LLRR AllSrc.pdf</p> <p>c181d No0010 BLLAC kl LL.pdf, c181d No0010 BLLAC kl RR.pdf,</p> <p>no LR or RL fringe</p> <p>c181d No0012 BLLAC bl LL.pdf, c181d No0012 BLLAC bl RR.pdf,</p> <p>no LR or RL fringe</p> <p>c181d No0010 BLLAC fl LL.pdf, c181d No0010 BLLAC fl LR.pdf,</p> <p>c181d No0010 BLLAC fl RL.pdf, c181d No0010 BLLAC fl RR.pdf</p> <p>c181d No0012 BLLAC fl LL.pdf, c181d No0012 BLLAC fl LR.pdf,</p> <p>np RL fringe, c181d No0012 BLLAC fl RR.pdf</p> <p>c181d No0012 BLLAC kl LL.pdf, c181d No0012 BLLAC kl RR.pdf,</p> <p>no LR or RL fringe</p> <p>c181d No0010 BLLAC lo LL.pdf, c181d No0010 BLLAC lo RR.pdf,</p> <p>no LR or RL fringe</p> <p>c181d No0010 BLLAC lp LL.pdf, no LR fringe,</p> <p>c181d No0010 BLLAC lp RL.pdf, c181d No0010 BLLAC lp RR.pdf</p> <p>c181d No0012 BLLAC lo LL.pdf, no LR fringe,</p> <p>c181d No0012 BLLAC lo RL.pdf, c181d No0012 BLLAC lo RR.pdf</p> <p>c181d No0012 BLLAC lp LL.pdf, c181d No0012 BLLAC lp LR.pdf,</p> <p>c181d No0012 BLLAC lp RL.pdf, c181d No0012 BLLAC lp RR.pdf</p>	Baselines to EVN stations are "missing" due to a fourfit error. They are present in the final correlation products.
VLBA: Mk	m	no	<p>c181d FRINGE RfAnt Mk LLRR AllSrc.pdf</p> <p>Antenna participated only in scans 3, 5, 7, 10,12, 14, 17 of this experiment (for all of them: target BLLAC, VLBA only). No fringes found in any of them.</p>	Baselines to EVN stations are "missing" due to a fourfit error. They are present in the final

Station	Code	Fringes	Plots	Comments
				<p>correlation products.</p> <p>Taken out for several scans because of USNO observing.</p> <p>General performance in c181d poor, with fringes mostly to ALMA.</p>
VLBA: N1	n	n/a	-----	Participated in C181D, but not in MM013C
VLBA: Ov	o	yes	<p>c181d FRINGE RfAnt Ov LLRR AllSrc.pdf</p> <p>c181d No0010 BLLAC fo LL.pdf, c181d No0010 BLLAC fo RR.pdf, no LR or RL fringe</p> <p>c181d No0010 BLLAC ko LL.pdf, c181d No0010 BLLAC ko RR.pdf, no LR or RL fringe</p> <p>c181d No0010 BLLAC lo LL.pdf, c181d No0010 BLLAC lo RR.pdf, no LR or RL fringe</p> <p>c181d No0012 BLLAC fo LL.pdf, c181d No0012 BLLAC fo RR.pdf, no LR or RL fringe</p> <p>c181d No0012 BLLAC ko LL.pdf, c181d No0012 BLLAC ko RR.pdf, no LR or RL fringe</p> <p>c181d No0012 BLLAC lo LL.pdf, no LR fringe, c181d No0012 BLLAC lo RL.pdf, c181d No0012 BLLAC lo RR.pdf</p> <p>c181d No0010 BLLAC op LL.pdf, c181d No0010 BLLAC op RR.pdf, no LR or RL fringe</p> <p>c181d No0012 BLLAC op LL.pdf, c181d No0012 BLLAC op RR.pdf, no LR or RL fringe</p>	Baselines to EVN stations are "missing" due to a fourfit error. They are present in the final correlation products.

Station	Code	Fringes	Plots	Comments
VLBA: Pt	p	yes	<p>c181d_FRINGE_RfAnt_Pt_LLRR_AllSrc.pdf</p> <p>c181d_No0010_BLLAC_fp_LL.pdf, c181d_No0010_BLLAC_fp_RR.pdf, no LR or RL fringe</p> <p>c181d_No0010_BLLAC_kp_LL.pdf, c181d_No0010_BLLAC_kp_RR.pdf, no LR or RL fringe</p> <p>c181d_No0010_BLLAC_lp_LL.pdf, no LR fringe, c181d_No0010_BLLAC_lp_RL.pdf, c181d_No0010_BLLAC_lp_RR.pdf</p> <p>c181d_No0010_BLLAC_op_LL.pdf, c181d_No0010_BLLAC_op_RR.pdf, no LR or RL fringe</p> <p>c181d_No0012_BLLAC_bp_LL.pdf, c181d_No0012_BLLAC_bp_RR.pdf, no LR or RL fringe</p> <p>c181d_No0012_BLLAC_fp_LL.pdf, c181d_No0012_BLLAC_fp_RR.pdf, no LR or RL fringe</p> <p>c181d_No0012_BLLAC_kp_LL.pdf, c181d_No0012_BLLAC_kp_RR.pdf, no LR or RL fringe</p> <p>c181d_No0012_BLLAC_lp_LL.pdf, c181d_No0012_BLLAC_lp_RL.pdf, c181d_No0012_BLLAC_lp_RR.pdf</p> <p>c181d_No0012_BLLAC_op_LL.pdf, c181d_No0012_BLLAC_op_RR.pdf, no LR or RL fringe</p>	<p>Baselines to EVN stations are "missing" due to a fourfit error. They are present in the final correlation products.</p> <p>Taken out for several scans because of USNO observing.</p>
GBT: Gb	G	n/a	-----	Participated in C181D, but not in MM013C
GLT: Gl	g	no	<p>c181d_FRINGE_RfAnt_Gl_LLRR_AllSrc.pdf</p> <p>Although there were fringes in the other part of c181d, in this part no fringes were found to either BLLAC or 2013+370.</p>	Data analysis has shown that GLT recorded in unknown polarization instead of circular (most probably unknown elliptic). We may be able to

Station	Code	Fringes	Plots	Comments
				recover the circular pols by special postprocessing, but at this moment IT SHOULD NOT BE USED FOR ANY POLARIMETRY and in general dealt with very carefully.
KVN: Kt	t	yes	c181d FRINGE RfAnt Kt LLRR AllSrc.pdf c181d No0041 2013+370 tu LL.pdf , c181d No0041 2013+370 tu LR.pdf , c181d No0041 2013+370 tu RL.pdf , c181d No0041 2013+370 tu RR.pdf c181d No0041 2013+370 tX LL.pdf , c181d No0041 2013+370 tX LR.pdf , c181d No0041 2013+370 tX RL.pdf , c181d No0041 2013+370 tX RR.pdf c181d No0041 2013+370 ty LL.pdf , c181d No0041 2013+370 ty LR.pdf , c181d No0041 2013+370 ty RL.pdf , c181d No0041 2013+370 ty RR.pdf c181d No0052 2013+370 Bt RL.pdf , c181d No0052 2013+370 Bt RR.pdf , no LL or LR fringe	
KVN: Ku	u	yes	c181d FRINGE RfAnt Ku LLRR AllSrc.pdf c181d No0041 2013+370 tu LL.pdf , c181d No0041 2013+370 tu LR.pdf , c181d No0041 2013+370 tu RL.pdf , c181d No0041 2013+370 tu RR.pdf c181d No0041 2013+370 uX LL.pdf , c181d No0041 2013+370 uX LR.pdf , c181d No0041 2013+370 uX RL.pdf , c181d No0041 2013+370 uX RR.pdf c181d No0041 2013+370 uy LL.pdf , c181d No0041 2013+370 uy LR.pdf , c181d No0041 2013+370 uy RL.pdf , c181d No0041 2013+370 uy RR.pdf c181d No0052 2013+370 Bu RL.pdf , c181d No0052 2013+370 Bu RR.pdf , no LL or LR fringe	
KVN: Ky	y	yes	c181d FRINGE RfAnt Ky LLRR AllSrc.pdf c181d No0041 2013+370 ty LL.pdf , c181d No0041 2013+370 ty LR.pdf , c181d No0041 2013+370 ty RL.pdf , c181d No0041 2013+370 ty RR.pdf	

Station	Code	Fringes	Plots	Comments
			c181d_No0041_2013+370_uy_LL.pdf , c181d_No0041_2013+370_uy_LR.pdf , c181d_No0041_2013+370_uy_RL.pdf , c181d_No0041_2013+370_uy_RR.pdf c181d_No0041_2013+370_yX_LL.pdf , c181d_No0041_2013+370_yX_LR.pdf , c181d_No0041_2013+370_yX_RL.pdf , c181d_No0041_2013+370_yX_RR.pdf c181d_No0052_2013+370_By_RL.pdf , c181d_No0052_2013+370_By_RR.pdf , no LL or LR fringe	

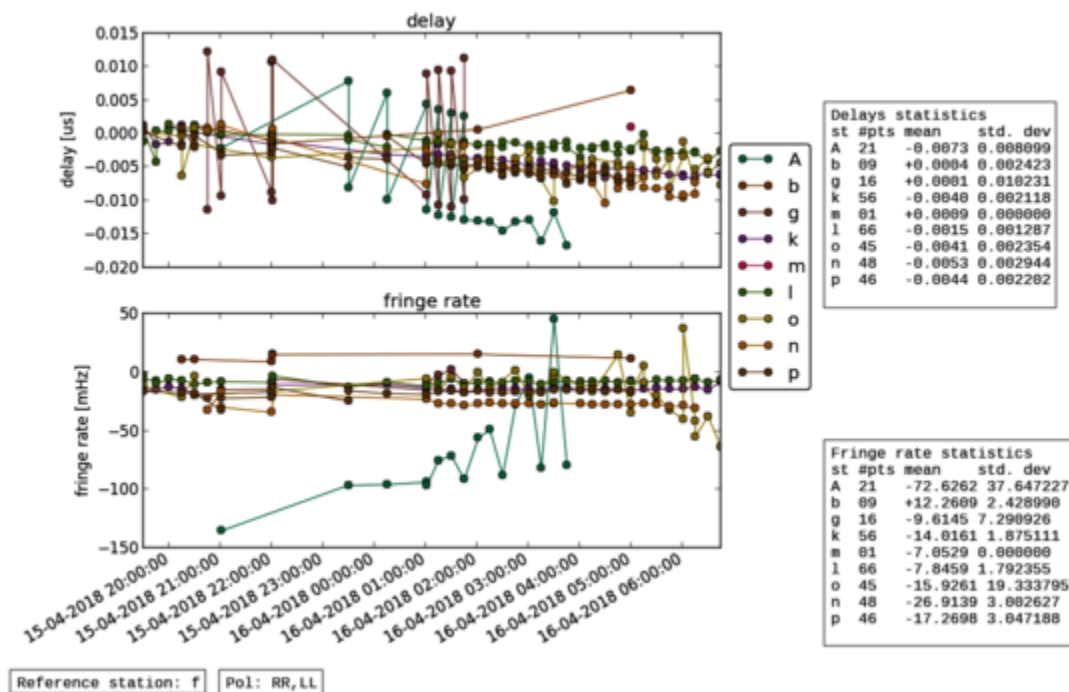
Notes

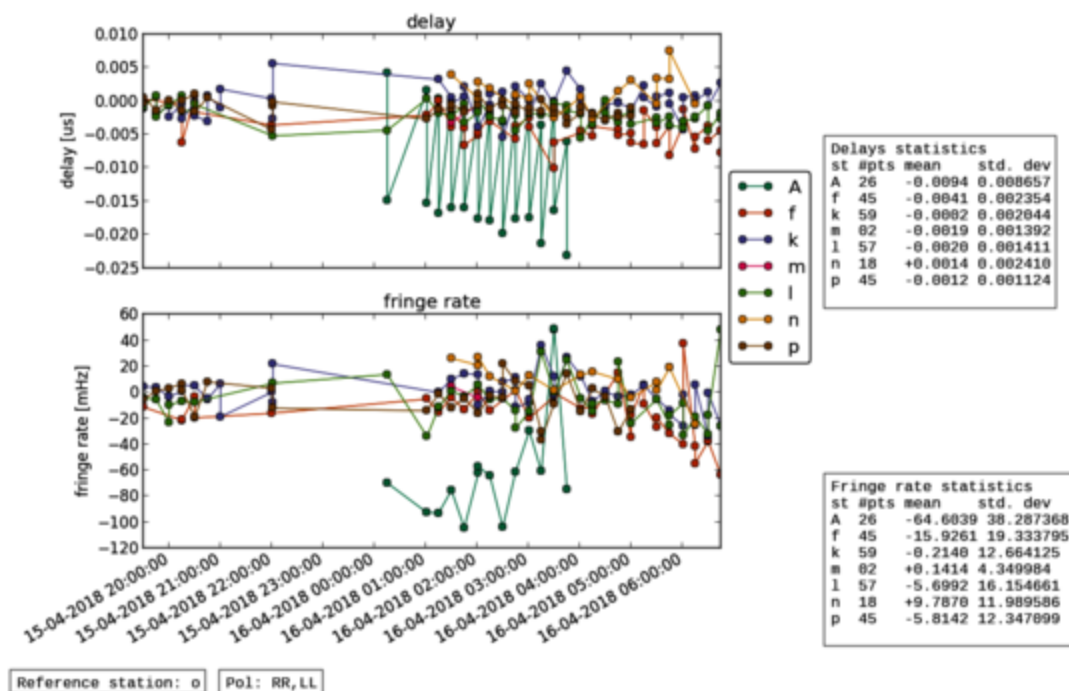
There were problems with some diagnostic plots of this experiment due to yet poorly understood errors of fourfit and other HOPS components. But this does not change the quality of the final correlation product. *(These issues were fixed in the second data release of 31/01/2019)*

GLT participated in this session for the first time as a test, and serious problems were detected when analysing its data. Be very carerful when using them.

Post-Correlation checks

Residuals





FITS completeness (plist)

				GB	EF	ON	PV	YS	MH	GL	NL	FD	PT	LA	OV	KP	BR	MK	KY	KU	KT	
c181d_02D2D	No0003	BLLAC	3mm_RDBE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181d_04D2D	No0005	BLLAC	3mm_RDBE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181d_06D2D	No0007	BLLAC	3mm_RDBE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181d_08D2D	No0010	BLLAC	3mm_RDBE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181d_10D2D	No0012	BLLAC	3mm_RDBE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181d_12D2D	No0014	BLLAC	3mm_RDBE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181d_14D2D	No0017	BLLAC	3mm_RDBE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
c181d_35D2D	No0041	2013+370	3mm_RDBE	.	o	o	95	o	o	.	.	.	.	.	.	.	.	.	.	o	o	o
c181d_37D2D	No0043	2013+370	3mm_RDBE	.	o	o	o	o	o	.	.	.	.	.	.	.	.	.	.	o	o	o
c181d_39D2D	No0046	BLLAC	3mm_RDBE	.	o	o	52	o	o	o	.	.	.	.	.	.	.	.	.	o	o	o
c181d_41D2D	No0048	2013+370	3mm_RDBE	.	o	o	52	o	o	o	.	.	.	.	.	.	.	.	.	o	o	o
c181d_43D2D	No0050	BLLAC	3mm_RDBE	.	o	o	52	o	o	o	.	.	.	.	.	.	.	.	.	o	o	o
c181d_45D2D	No0052	2013+370	3mm_RDBE	.	o	o	52	o	o	o	.	.	.	.	.	.	.	.	.	o	o	o
c181d_47D2D	No0055	BLLAC	3mm_RDBE	.	o	o	52	o	o	o	.	.	.	.	.	.	.	.	.	o	o	o
c181d_49D2D	No0057	2013+370	3mm_RDBE	.	o	o	52	o	o	o	.	.	.	.	.	.	.	.	.	o	o	o
c181d_51D2D	No0059	BLLAC	3mm_RDBE	.	o	o	52	o	o	o	.	.	.	.	.	.	.	.	.	o	o	o
c181d_53D2D	No0061	2013+370	3mm_RDBE	.	o	o	52	o	o	o	.	.	.	.	.	.	.	.	.	o	o	o
c181d_55D2D	No0064	BLLAC	3mm_RDBE	.	o	o	o	o	o	o	.	.	.	.	.	.	.	.	.	o	o	o
c181d_57D2D	No0066	2013+370	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	o	o	o
c181d_59D2D	No0068	BLLAC	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	o	o	o
c181d_61D2D	No0070	BLLAC	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	o	o	o
c181d_63D2D	No0073	2013+370	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	.	.	.
c181d_65D2D	No0075	BLLAC	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	o	o	o
c181d_67D2D	No0077	2013+370	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	.	.	.
c181d_69D2D	No0079	BLLAC	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	.	.	.
c181d_71D2D	No0082	BLLAC	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	o	o	o

c181d_73D2D	No0084	2013+370	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	.	.	.	.
c181d_75D2D	No0086	BLLAC	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	.	.	.	.
c181d_77D2D	No0088	BLLAC	3mm_RDBE	.	o	o	o	o	o	x	.	.	.	.	.	.	.	.	.	.	.	.	.