PAUL SCHERRER INSTITUT

PSI

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Titel: **The JSS Database on glass corrosion kinetics**	Ersetzt
Autoren / Autorinnen: Enzo Curti	Erstellt 19.09.2018 / CE44

Abstract:

This document briefly introduces the comprehensive database on nuclear waste glass corrosion arising from the joint Japanese-Swiss-Swedish (JSS) project, carried out between 1984 and 1988, co-funded by the Central Research Institute of Electric Power Industry (CRIEPI), the Swedish Nuclear Fuel and Waste Management Company (SKB) and the National Cooperative for the Disposal of Radioactive Waste (Nagra) in order to study the dissolution kinetics of both active and inactive borosilicate glasses foreseen as matrices for reprocessed high-level radioactive waste in the respective countries. All experiments were conducted at Paul Scherrer Institut (PSI) and Studsvik AB. The results of the project were documented exclusively in paper form as a series of reports edited by SKB.

Most of the produced data have been now digitized and collected in an Excel spreadsheet that offers the capability to select data according to precise criteria, such as temperature, solid/liquid ratio, solution type, pH, glass surface to solution volume ratio and the materials added to the glass (Fe corrosion products, bentonite). Any selected data subset is automatically presented in the form of a Table and plots. In this report, the Excel spreadsheet is described and its use introduced with the help of examples.

Verteiler	Abt.	Empfänger / Empfängerinnen	Expl.	Abt.	Empfänger / Empfängerinnen	Expl.		Expl.
							Bibliothek	
							Reserve	
							Total	
							Seiten	75
							Beilagen	
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							D 1 2 3 4 5 8 9 A	
							Visum Abt.-/Laborleitung:	

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1. Introduction

During the eighties (1984-1988) the corrosion behaviour of vitrified waste was studied systematically in the framework of an international project, co-funded by the Central Research Institute of Electric Power Industry (CRIEPI), the Swedish Nuclear Fuel and Waste Management Company (SKB) and the National Cooperative for the Disposal of Radioactive Waste (Nagra), in charge to implement the long-term disposal of high-level radioactive waste in the respective countries.

At that time, reprocessing of spent nuclear fuel and storage as borosilicate glass was planned or taken into consideration by all three aforementioned countries and committed to COGEMA (now AREVA) in France and BNFL in UK. These reprocessing plants yielded specifications in terms of glass compositions (major elements, fission products and minor actinides), resulting in two similar, but not identical types of glasses, one including Mg inherited from MAGNOX waste treated in the Sellafield plant (BNFL, UK), the other containing Ca instead of Mg (COGEMA type).

The project was dubbed “JSS-project” and included systematic aqueous leaching tests, carried out at the Swiss Federal Institute for Reactor Research (EIR, now Paul Scherrer Institut) and at Studsvik Energiteknik AB (now Studsvik Nuclear AB) mostly using the same glass material. In addition, theoretical assessments of the glass corrosion process, modelling of the results and review work were carried out. The project's work was documented in a series of reports (JSS 1984a, 1984b, 1984c, 1985, 1986, 1987a, 1987b, 1988a, 1988b) encompassing a total of about 1400 pages (text, graphs and data tables). The reports were edited by SKB and are only available in paper form, except for the final report (JSS 1988b) which can be downloaded as PDF file from the INIS database[1]. In addition, a few publications summarizing the essential JSS results were produced (Werme et al., 1990 and references therein).

While the theoretical considerations are now obsolete, the experimental data still represent the perhaps most comprehensive ensemble of leach data on borosilicate glasses relevant to nuclear waste disposal. Data are available both for inactive simulated glasses, in which stable isotopes replace the radioactive fission products and lanthanides replace actinides, as well as for glasses containing alpha emitters with activity comparable with the activity of real vitrified waste. The results on active samples represent one of the rare datasets from which the effect of radioactivity on glass corrosion kinetics can be deduced.

The purpose of the present work is to bring the extensive glass dissolution data generated during the JSS project into an electronic format, offering a simple way to extract subsets of data after specific criteria, such as temperature, solid/liquid ratio, solution type, pH and the materials added to the glass (Fe corrosion products, bentonite). To this aim, most of the data available in the JSS report were typed into Excel spreadsheet and a so-called Pivot-

[1] http://www.iaea.org/inis/collection/NCLCollectionStore/_Public/21/008/21008130.pdf?r=1

table was generated that allows the selection and plotting of specific data subsets after useful criteria. This document and the spreadsheet are freely available on our Institute web page (https://www.psi.ch/les/software-and-database).

In addition to the results of the experiments carried out in the framework of the JSS-project, the electronic database also includes data related to the long-term glass corrosion experiments started at PSI in 1991 (Curti et al. 2006).

2. Glass compositions and parameter variations

Four different glasses were used for experimental aqueous leach tests. The JSSA glass is a radioactive simulant containing alpha activity comparable to real reprocessed glasses. The other three are non-active simulations. Table 2 shows the detailed nominal composition of the four glasses.

The leach tests were carried out under different temperature conditions, using different types of starting aqueous solutions and in some experiments with the addition of materials simulating the repository near-field. Parameter variations are shown in Table 1.

Table 1 – List of aqueous solutions, near-field materials, pHs, temperatures, glass surface to solution volume (S/V) ratios and sampling times used in the JSS experiments.

Solutions

JSS code	Description	Reference
A	Doubly distilled water	
B	Deionized water pre-equilibrated with MX-80 bentonite at 45°C, 8h	JSS(1987a) p.3:10, Table 3:10, water Ia
C	MCC silicate water	JSS(1984c) p.29
J	Allard water (simulated granitic water)	JSS(1984a) p.40
K	air saturated water	

Added near-field materials

Code	Description	Reference
ben	MX-80 Na-bentonite	JSS(1987a) pp. 3:9 -3:11
feoh	goethite	JSS(1987a) pp. 3:11 -3:12
mgn	magnetite (laboratory)	JSS(1987a) pp. 3:12 -3:13
mgn*	magnetite (commercial)	JSS(1987a) pp. 3:12 -3:13

pH-values
unbuffered (most experiments), buffered: 2.5, 5.6, 6.1, 8.2, 9.0

Temperatures (°C)
40, 50, 70, 90, 110

S/V – values (m^2/m^3)
10, 50, 150, 260, 1100, 1050, 1100, 1200, 1320, 4000

Sampling times (days)
3, 7, 14, 28, 56, 91, 182, 330, 334, 365, 547

Table 2 – Nominal composition (in weight % oxide) of the four glass batches used as samples for the JSS aqueous leach tests, after Table 2 in Werme et al. (1990). Void cells mean zero nominal values.

glass type =>	AREVA	AREVA	AREVA	BNFL
glass name =>	**JSSA**	**ABS118**	**SON68**	**MW**
alt. glass name =>			R7T7	
radioactive (Y/N) =>	Y	N	N	N
Oxide				
Ag_2O	0.03	0.02	0.03	0.02
Al_2O_3	4.87	4.91	4.91	5.33
B_2O_3	14.40	14.02	14.02	16.65
BaO	0.60	0.58	0.60	0.57
CaO	4.01	4.04	4.04	
CdO	0.03	0.03	0.03	0.02
CeO_2	0.96	0.99	0.98	1.02
CoO	0.12		0.03	
Cr_2O_3	0.50	0.51	0.51	0.41
Cs_2O	1.41	1.10	1.42	1.13
Eu_2O_3				0.04
Gd_2O_3				0.02
Fe_2O_3	2.89	2.91	2.91	2.69
La_2O_3	0.89	0.89	0.90	0.52
Li_2O	1.97	1.98	1.98	3.79
MgO	0.04	0.04		5.85
MnO_2	0.71	0.97	0.72	
MoO_2	1.69	2.05	1.70	1.76
Na_2O	9.79	9.86	9.86	8.10
Nd_2O_3	1.58	1.52	1.59	1.61
NiO	0.74	0.86	0.74	0.27
P_2O_5	0.48	0.28	0.28	0.18
Pr_6O_{11}	0.44	0.49	0.44	1.02
PuO_2	0.22			
Rb_2O				0.13
$^{\#}SO_3$				0.07
Sb_2O	0.01	0.01	0.01	0.01
SeO_2				0.03
SiO_2	45.12	45.48	45.48	46.20
Sm_2O_3				0.32
SnO	0.02	0.02	0.02	0.02
SrO	0.33	0.33	0.33	0.36
TeO_2		0.23	0.23	0.18
ThO_2	0.16		0.33	
UO_2	0.51	0.85	0.52	*
Y_2O_3	0.20	0.19	0.20	*0.21
ZnO	2.52	2.50	2.50	
ZrO_2	2.63	2.61	2.65	1.71
SUM	**99.87**	**100.27**	**99.96**	**100.24**

Erroneous formula in Werme et al. (1990) corrected

* Mistyped values in Werme et al. (1990) corrected

3. Spreadsheet guide

3.1 Worksheet description

The spreadsheet is organized in a series of self-explaining worksheets, briefly presented here:

Read me

Contains essential information on the data structure, a list of the glass samples used in the experiments, and explanation of abbreviations used in the lists of data.

Compos

The detailed compositions of the glasses and leaching solutions used in the JSS experiments are reported.

References

This worksheet contains the full references of the JSS reports from which the tabulated data stem.

Select Data

Here, a Pivot Table is defined to select any desirable subset of data according to specified criteria – see the section "Selection of data" below for an in-depth description.

The next worksheets contain the actual data:

NL(B), NL(Li), NL(Mo), NL(Na)

NL stays for the *normalized mass loss* of the element enclosed in parentheses. This quantity (g/m^2) defines the amount of element in solution at a given leach time per unit glass surface area and is normalized to the element content in the glass. For instance, for boron:

$$NL(B) = \frac{[B]}{f_B(S/V)} \quad (1)$$

Where [B] is the aqueous concentration of boron in (g/m^3), f_B is the weight fraction of boron in the glass (g boron /g glass) and (S/V) the exposed surface area to aqueous solution volume (m^{-1}). Because boron is soluble and sorption effects are negligible, and given that

the unique source of boron is the glass, the quantity $NL(B)$ can be taken as a measure of the amount of glass dissolved per unit exposed surface area. In many cases $NL(Li)$ may also be used as a marker of glass corrosion, while the normalized mass loss of other elements is usually much less than $NL(B)$ due to precipitation of secondary solids, retention in the alteration layer or sorption.

CNL(Si), NL(Si), C(Si)

Whereas solution data B, Li, Mo and Na are always given as normalized mass losses in the JSS reports, NL values **or** aqueous concentrations are reported for Si. This forced us to process Si data in order to obtain uniformity of quantity and units. Therefore, multiple spreadsheets were created for Si, showing the same data in different forms:

CNL(Si) = original data as listed in the JSS-reports (NL(Si) or Si concentrations in mg/L)

NL(Si) = only normalized Si mass losses in g m^{-2}

C(Si) = only Si concentrations in mg/L

C(Si)_M = only Si concentrations in mol/L

WL

This worksheet contains data on gravimetrically measured weight loss (g/m^2) of the glass. WL approximates the quantity of glass dissolved per unit surface area, if the corrosion products formed on top of the surface can be easily removed mechanically, or their amount is negligible. However, in some cases removal is not possible.

PH

This worksheet reports the pH-values measured during the experiments at the given temperature.

Data Summary

This worksheet includes in a single worksheet all available data and serves mainly as a convenient source of data for the Pivot table.

3.2 Data organization

All data worksheets are organized in the same pattern (Fig. 1 and Fig.2):

- Each row corresponds to a single leach experiment

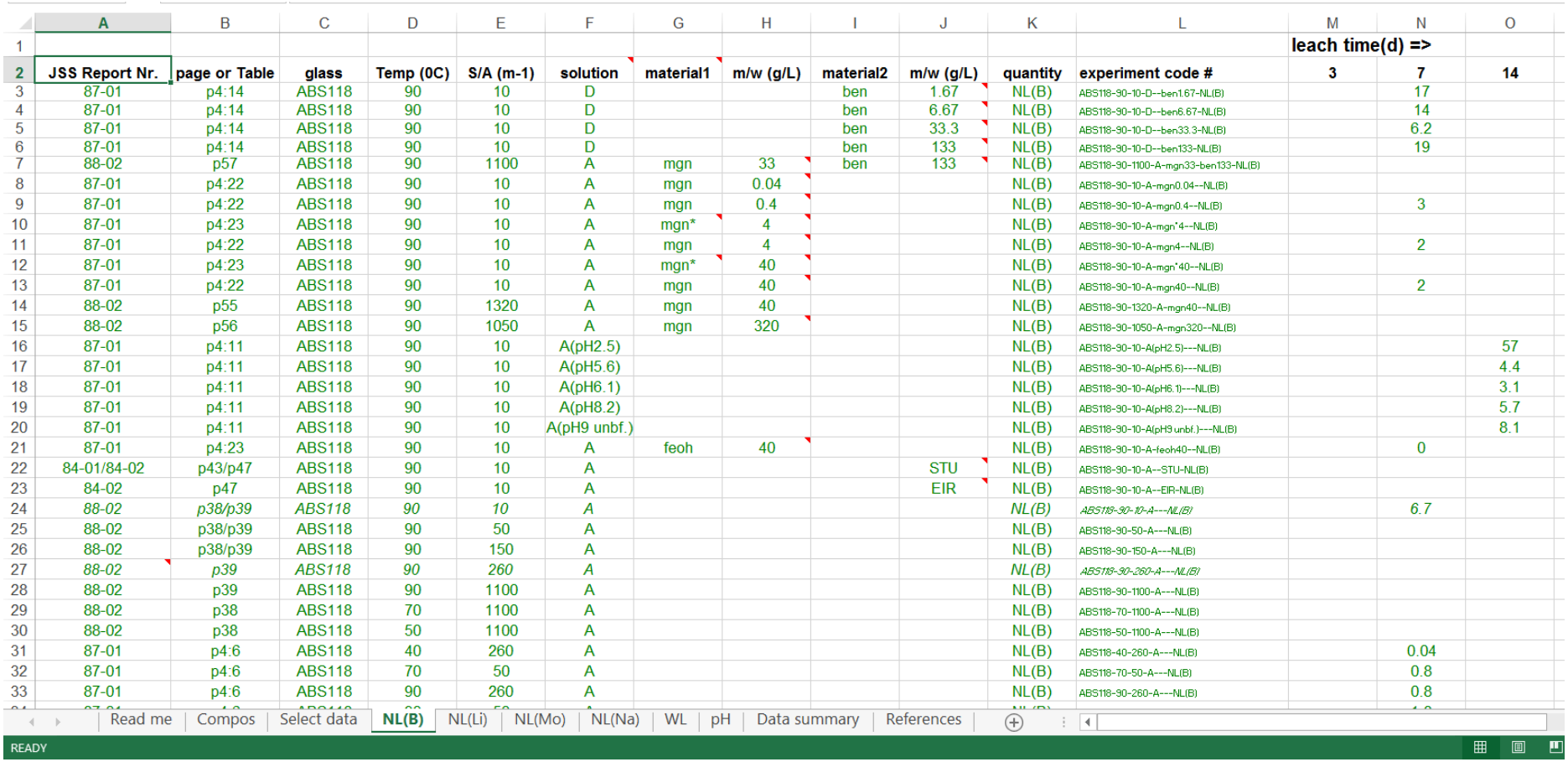
- Columns A-J give essential information on the experiments, i.e. the JSS report number and the page where the data are compiled, the glass identification code, temperature, S/V ratio, solution type as well as optionally added materials and their mass concentration. For data related to the long-term PSI experiments (Curti et al., 2006), the data source file 'glass_new.xls' is given. Note that only data up to 548 days are reported. A complete set of B, Li and Si data for the long-term experiments can be found in Curti (2003), Appendix C.

- Column K identifies to which chemical or physical quantity the listed values refer

- Column J is an automatically generated identification code for the experiment, formed by string concatenation. The concatenation indicates, in sequence and separated by a hyphen: glass type, temperature (^{o}C), S/V ratio (m-1), solution type, added material 1 (with mass concentration in g/L), added material 2 (with mass concentration in g/L).

- Columns M-W report the measured normalized mass losses (NL), weight losses (WL), pH values and Si concentrations as a function of leach time (NL and WL are given in g/m^2, Si concentrations in mg/L and mol/L)

- Any measured quantity associated to a specific experiment and leach time has the same relative cell address. For instance, with reference to Fig. 1 and 2, the cells with address Q 15 refer to the measurements of NL(B) and NL(Li) for the same experiment at 56 days leach time. To retrieve the corresponding NL(Mo), NL (Na), WL and pH data for the same experiment and time one has simply to call the same cell address Q15 in the respective worksheets. This structure greatly facilitates setting up manual tables and plots to set up cross correlations between different quantities.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1													leach time(d) =>		
2	JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material1	m/w (g/L)	material2	m/w (g/L)	quantity	experiment code #	3	7	14
3	87-01	p4:14	ABS118	90	10	D			ben	1.67	NL(B)	ABS118-90-10-D--ben1.67-NL(B)		17	
4	87-01	p4:14	ABS118	90	10	D			ben	6.67	NL(B)	ABS118-90-10-D--ben6.67-NL(B)		14	
5	87-01	p4:14	ABS118	90	10	D			ben	33.3	NL(B)	ABS118-90-10-D--ben33.3-NL(B)		6.2	
6	87-01	p4:14	ABS118	90	10	D			ben	133	NL(B)	ABS118-90-10-D--ben133-NL(B)		19	
7	88-02	p57	ABS118	90	1100	A	mgn	33	ben	133	NL(B)	ABS118-90-1100-A-mgn33-ben133-NL(B)			
8	87-01	p4:22	ABS118	90	10	A	mgn	0.04			NL(B)	ABS118-90-10-A-mgn0.04--NL(B)			
9	87-01	p4:22	ABS118	90	10	A	mgn	0.4			NL(B)	ABS118-90-10-A-mgn0.4--NL(B)		3	
10	87-01	p4:23	ABS118	90	10	A	mgn*	4			NL(B)	ABS118-90-10-A-mgn*4--NL(B)			
11	87-01	p4:22	ABS118	90	10	A	mgn	4			NL(B)	ABS118-90-10-A-mgn4--NL(B)		2	
12	87-01	p4:23	ABS118	90	10	A	mgn*	40			NL(B)	ABS118-90-10-A-mgn*40--NL(B)			
13	87-01	p4:22	ABS118	90	10	A	mgn	40			NL(B)	ABS118-90-10-A-mgn40--NL(B)		2	
14	88-02	p55	ABS118	90	1320	A	mgn	40			NL(B)	ABS118-90-1320-A-mgn40--NL(B)			
15	88-02	p56	ABS118	90	1050	A	mgn	320			NL(B)	ABS118-90-1050-A-mgn320--NL(B)			
16	87-01	p4:11	ABS118	90	10	A(pH2.5)					NL(B)	ABS118-90-10-A(pH2.5)---NL(B)			57
17	87-01	p4:11	ABS118	90	10	A(pH5.6)					NL(B)	ABS118-90-10-A(pH5.6)---NL(B)			4.4
18	87-01	p4:11	ABS118	90	10	A(pH6.1)					NL(B)	ABS118-90-10-A(pH6.1)---NL(B)			3.1
19	87-01	p4:11	ABS118	90	10	A(pH8.2)					NL(B)	ABS118-90-10-A(pH8.2)---NL(B)			5.7
20	87-01	p4:11	ABS118	90	10	A(pH9 unbf.)					NL(B)	ABS118-90-10-A(pH9 unbf.)---NL(B)			8.1
21	87-01	p4:23	ABS118	90	10	A	feoh	40			NL(B)	ABS118-90-10-A-feoh40--NL(B)		0	
22	84-01/84-02	p43/p47	ABS118	90	10	A				STU	NL(B)	ABS118-90-10-A--STU-NL(B)			
23	84-02	p47	ABS118	90	10	A				EIR	NL(B)	ABS118-90-10-A--EIR-NL(B)			
24	*88-02*	*p38/p39*	*ABS118*	*90*	*10*	*A*					*NL(B)*	*ABS118-90-10-A---NL(B)*		*6.7*	
25	88-02	p38/p39	ABS118	90	50	A					NL(B)	ABS118-90-50-A---NL(B)			
26	88-02	p38/p39	ABS118	90	150	A					NL(B)	ABS118-90-150-A---NL(B)			
27	*88-02*	*p39*	*ABS118*	*90*	*260*	*A*					*NL(B)*	*ABS118-90-260-A---NL(B)*			
28	88-02	p39	ABS118	90	1100	A					NL(B)	ABS118-90-1100-A---NL(B)			
29	88-02	p38	ABS118	70	1100	A					NL(B)	ABS118-70-1100-A---NL(B)			
30	88-02	p38	ABS118	50	1100	A					NL(B)	ABS118-50-1100-A---NL(B)			
31	87-01	p4:6	ABS118	40	260	A					NL(B)	ABS118-40-260-A---NL(B)		0.04	
32	87-01	p4:6	ABS118	70	50	A					NL(B)	ABS118-70-50-A---NL(B)		0.8	
33	87-01	p4:6	ABS118	90	260	A					NL(B)	ABS118-90-260-A---NL(B)		0.8	

Read me | Compos | Select data | **NL(B)** | NL(Li) | NL(Mo) | NL(Na) | WL | pH | Data summary | References

READY

Fig. 1 – Screenshot of JSS Excel database showing partially NL(B) values worksheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1													leach time(d) =>		
2	JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material1	m/w (g/L)	material2	m/w (g/L)	quantity	experiment code #	3	7	14
3	87-01	p4:14	ABS118	90	10	D			ben	1.67	NL(Li)	ABS118-90-10-D--ben1.67-NL(Li)		18	
4	87-01	p4:14	ABS118	90	10	D			ben	6.67	NL(Li)	ABS118-90-10-D--ben6.67-NL(Li)		13	
5	87-01	p4:14	ABS118	90	10	D			ben	33.3	NL(Li)	ABS118-90-10-D--ben33.3-NL(Li)		4	
6	87-01	p4:14	ABS118	90	10	D			ben	133	NL(Li)	ABS118-90-10-D--ben133-NL(Li)			
7	88-02	p57	ABS118	90	1100	A	mgn	33	ben	133	NL(Li)	ABS118-90-1100-A-mgn33-ben133-NL(Li)			
8	87-01	p4:22	ABS118	90	10	A	mgn	0.04			NL(Li)	ABS118-90-10-A-mgn0.04--NL(Li)			
9	87-01	p4:22	ABS118	90	10	A	mgn	0.4			NL(Li)	ABS118-90-10-A-mgn0.4--NL(Li)			
10	87-01	p4:23	ABS118	90	10	A	mgn*	4			NL(Li)	ABS118-90-10-A-mgn*4--NL(Li)			
11	87-01	p4:22	ABS118	90	10	A	mgn	4			NL(Li)	ABS118-90-10-A-mgn4--NL(Li)			
12	87-01	p4:23	ABS118	90	10	A	mgn*	40			NL(Li)	ABS118-90-10-A-mgn*40--NL(Li)			
13	87-01	p4:22	ABS118	90	10	A	mgn	40			NL(Li)	ABS118-90-10-A-mgn40--NL(Li)			
14	88-02	p55	ABS118	90	1320	A	mgn	40			NL(Li)	ABS118-90-1320-A-mgn40--NL(Li)			
15	88-02	p56	ABS118	90	1050	A	mgn	320			NL(Li)	ABS118-90-1050-A-mgn320--NL(Li)			
16	87-01	p4:11	ABS118	90	10	A(pH2.5)					NL(Li)	ABS118-90-10-A(pH2.5)---NL(Li)			
17	87-01	p4:11	ABS118	90	10	A(pH5.6)					NL(Li)	ABS118-90-10-A(pH5.6)---NL(Li)			
18	87-01	p4:11	ABS118	90	10	A(pH6.1)					NL(Li)	ABS118-90-10-A(pH6.1)---NL(Li)			
19	87-01	p4:11	ABS118	90	10	A(pH8.2)					NL(Li)	ABS118-90-10-A(pH8.2)---NL(Li)			
20	87-01	p4:11	ABS118	90	10	A(pH9 unbf.)					NL(Li)	ABS118-90-10-A(pH9 unbf.)---NL(Li)			
21	87-01	p4:23	ABS118	90	10	A	feoh	40			NL(Li)	ABS118-90-10-A-feoh40--NL(Li)			
22	84-01/84-02	p43/p47	ABS118	90	10	A				STU	NL(Li)	ABS118-90-10-A--STU-NL(Li)			
23	84-02	p47	ABS118	90	10	A				EIR	NL(Li)	ABS118-90-10-A--EIR-NL(Li)			
24	88-02	p38/p39	ABS118	90	10	A					NL(Li)	ABS118-90-10-A---NL(Li)		7.2	
25	88-02	p38/p39	ABS118	90	50	A					NL(Li)	ABS118-90-50-A---NL(Li)			
26	88-02	p38/p39	ABS118	90	150	A					NL(Li)	ABS118-90-150-A---NL(Li)			
27	88-02	p39	ABS118	90	260	A					NL(Li)	ABS118-90-260-A---NL(Li)			
28	88-02	p39	ABS118	90	1100	A					NL(Li)	ABS118-90-1100-A---NL(Li)			
29	88-02	p38	ABS118	70	1100	A					NL(Li)	ABS118-70-1100-A---NL(Li)			
30	88-02	p38	ABS118	50	1100	A					NL(Li)	ABS118-50-1100-A---NL(Li)			
31	87-01	p4:6	ABS118	40	260	A					NL(Li)	ABS118-40-260-A---NL(Li)			
32	87-01	p4:6	ABS118	70	50	A					NL(Li)	ABS118-70-50-A---NL(Li)			
33	87-01	p4:6	ABS118	90	260	A					NL(Li)	ABS118-90-260-A---NL(Li)			

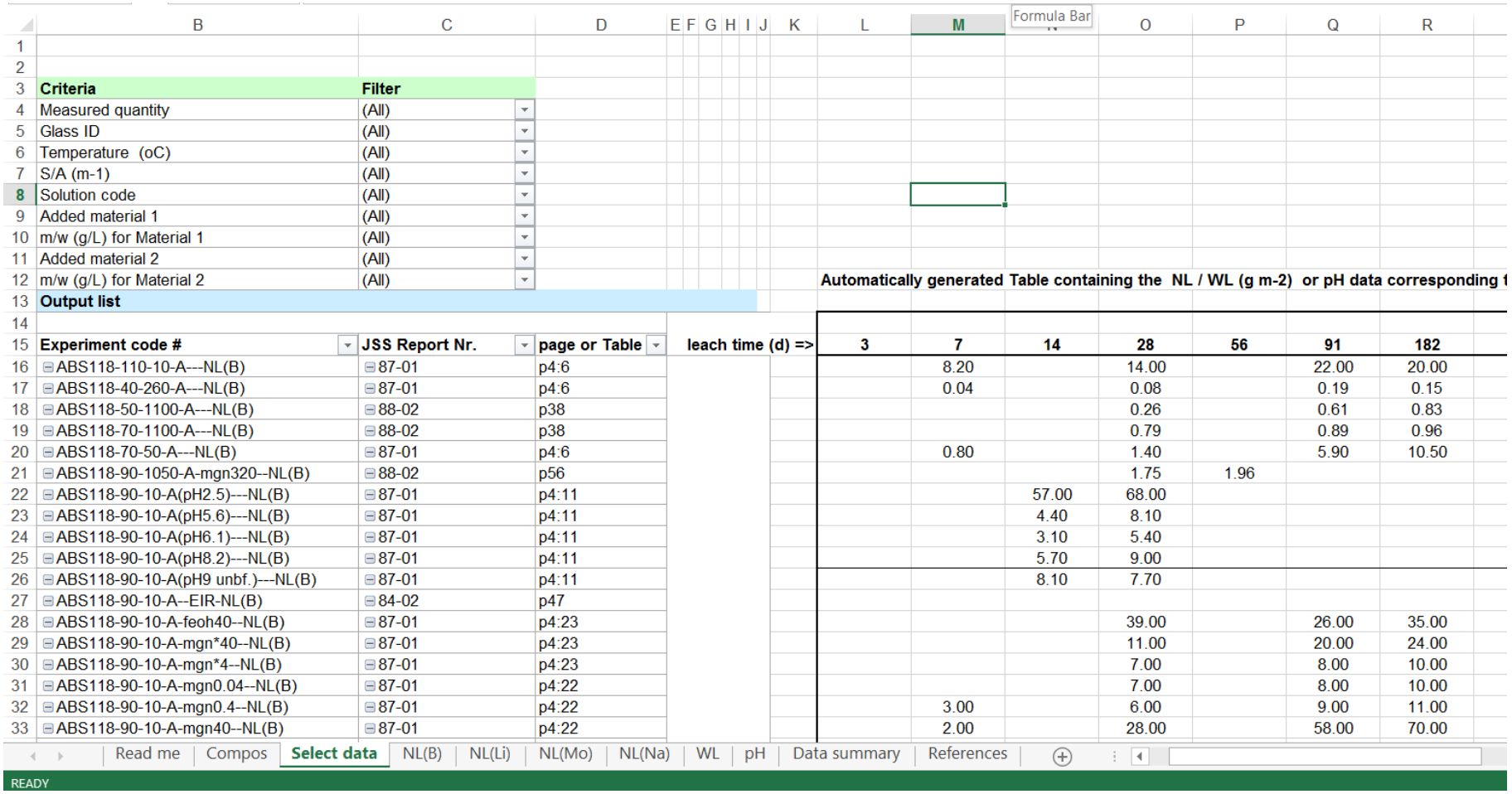
Read me | Compos | Select data | NL(B) | **NL(Li)** | NL(Mo) | NL(Na) | WL | **pH** | Data summary | References

Fig.2 – Screenshot of JSS Excel database showing region of NL(Li) worksheet corresponding to Fig. 1.

3.3 Selecting data subsets

In the “Select Data” worksheet, specific subsets of data can be easily tabulated according to the specific criteria corresponding to the headers of columns A-K of the simple data worksheet (Fig. 3). Criteria can be specified by opening the drop-down lists in the input field (Filter). In the screenshot of Fig. 3, all optional filters are active; therefore a (not very useful) Table containing all data is generated.

In Fig. 4 an example is given of filter application in which all NL(B) data referring to the only active glass (JSSA) used during the project. This is done simply by selecting “NL(B)” and “JSSA” from the drop-down list and excluding all other options in the corresponding lists (upper part of Fig. 4). As a result, the desired data are extracted and tabulated. In addition, the data are automatically plotted as NL(B) vs. time graphs (Fig. 5).



Criteria	Filter
Measured quantity	(All)
Glass ID	(All)
Temperature (oC)	(All)
S/A (m-1)	(All)
Solution code	(All)
Added material 1	(All)
m/w (g/L) for Material 1	(All)
Added material 2	(All)
m/w (g/L) for Material 2	(All)

Automatically generated Table containing the NL / WL (g m-2) or pH data corresponding t

Output list

Experiment code #	JSS Report Nr.	page or Table	leach time (d) =>	3	7	14	28	56	91	182
ABS118-110-10-A---NL(B)	87-01	p4:6			8.20		14.00		22.00	20.00
ABS118-40-260-A---NL(B)	87-01	p4:6			0.04		0.08		0.19	0.15
ABS118-50-1100-A---NL(B)	88-02	p38					0.26		0.61	0.83
ABS118-70-1100-A---NL(B)	88-02	p38					0.79		0.89	0.96
ABS118-70-50-A---NL(B)	87-01	p4:6			0.80		1.40		5.90	10.50
ABS118-90-1050-A-mgn320--NL(B)	88-02	p56					1.75	1.96		
ABS118-90-10-A(pH2.5)---NL(B)	87-01	p4:11				57.00	68.00			
ABS118-90-10-A(pH5.6)---NL(B)	87-01	p4:11				4.40	8.10			
ABS118-90-10-A(pH6.1)---NL(B)	87-01	p4:11				3.10	5.40			
ABS118-90-10-A(pH8.2)---NL(B)	87-01	p4:11				5.70	9.00			
ABS118-90-10-A(pH9 unbf.)---NL(B)	87-01	p4:11				8.10	7.70			
ABS118-90-10-A--EIR-NL(B)	84-02	p47								
ABS118-90-10-A-feoh40--NL(B)	87-01	p4:23					39.00		26.00	35.00
ABS118-90-10-A-mgn*40--NL(B)	87-01	p4:23					11.00		20.00	24.00
ABS118-90-10-A-mgn*4--NL(B)	87-01	p4:23					7.00		8.00	10.00
ABS118-90-10-A-mgn0.04--NL(B)	87-01	p4:22					7.00		8.00	10.00
ABS118-90-10-A-mgn0.4--NL(B)	87-01	p4:22			3.00		6.00		9.00	11.00
ABS118-90-10-A-mgn40--NL(B)	87-01	p4:22			2.00		28.00		58.00	70.00

Read me | Compos | Select data | NL(B) | NL(Li) | NL(Mo) | NL(Na) | WL | pH | Data summary | References

READY

Fig. 3 – Excerpt of "Select data" worksheet showing the input field (green), the output list (blue) with the experiment code as well as source report and page. On the right side are the extracted data from the experiments specified in the same row.

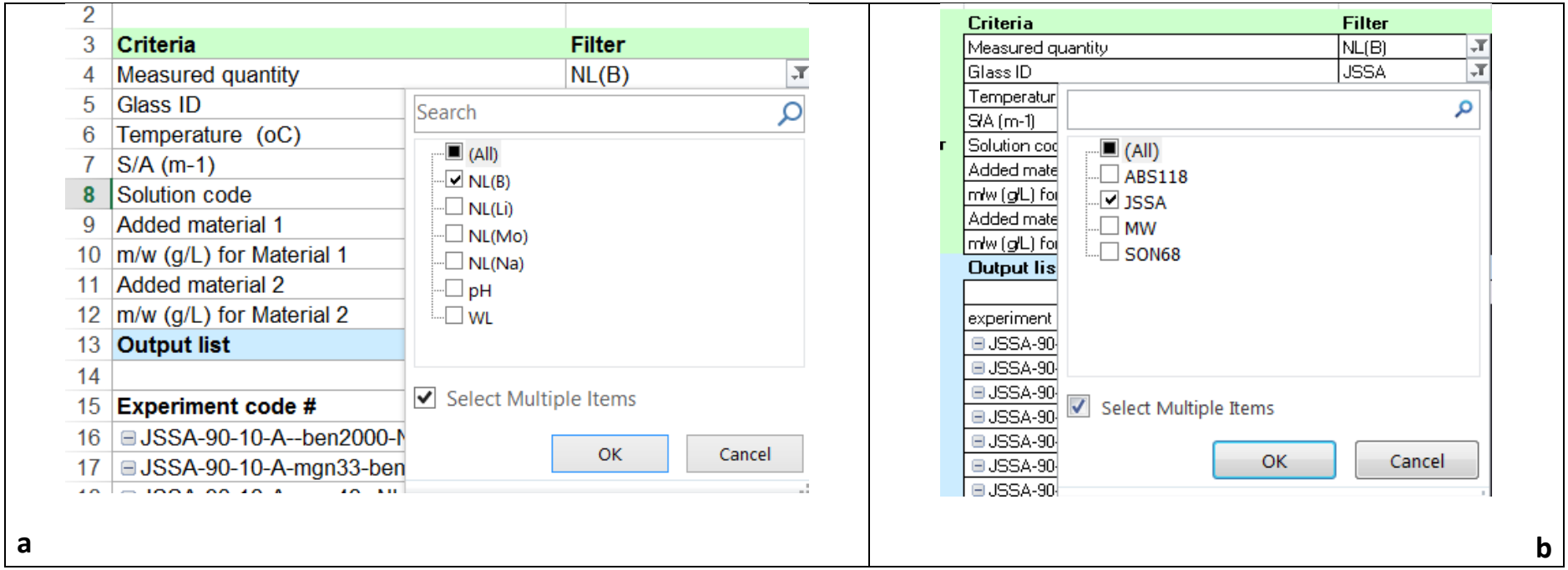
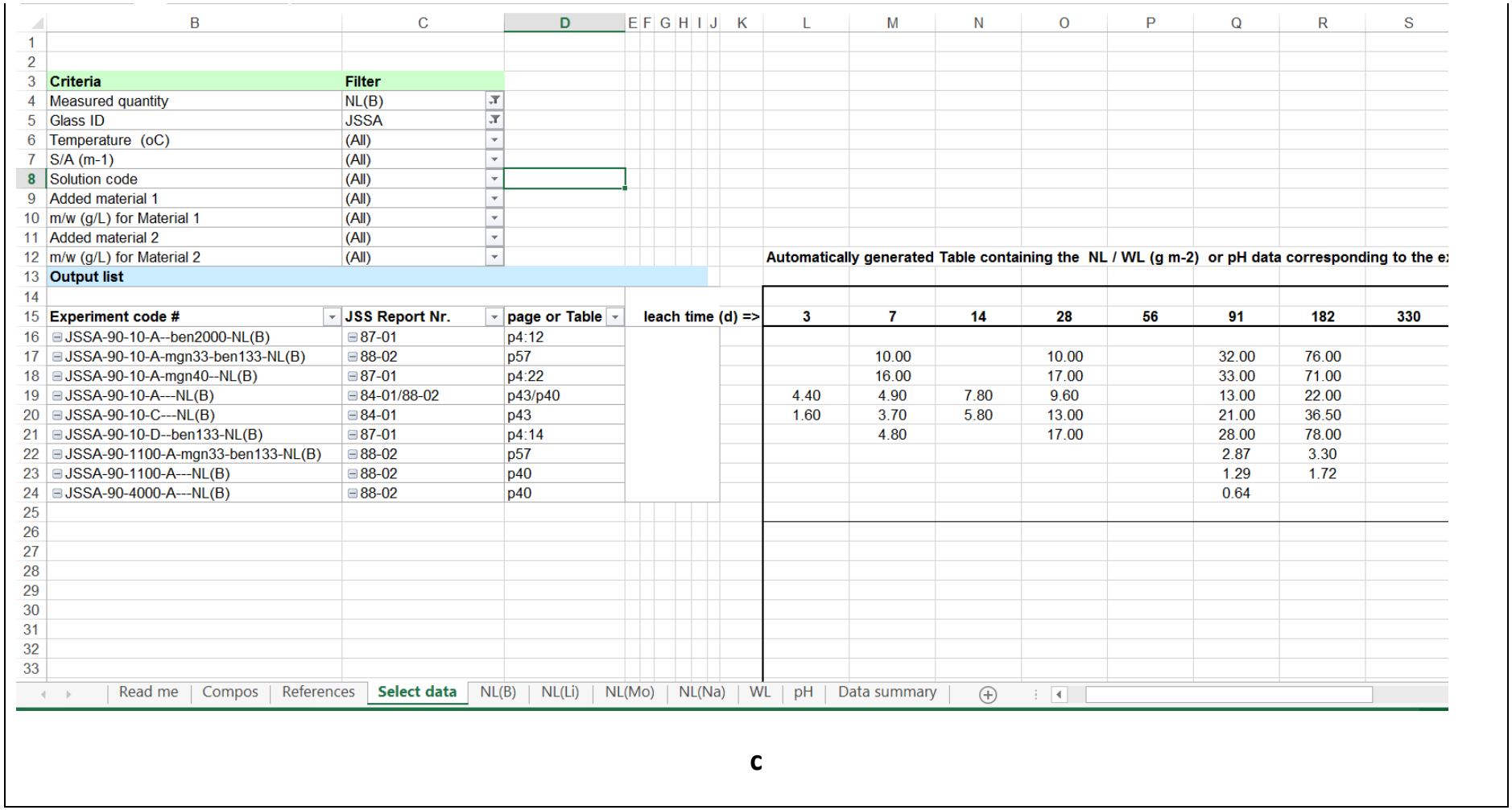


Fig. 4a,b – Example of filter selection to generate a subset data table (see text for explanation)



Criteria	Filter
Measured quantity	NL(B)
Glass ID	JSSA
Temperature (oC)	(All)
S/A (m-1)	(All)
Solution code	(All)
Added material 1	(All)
m/w (g/L) for Material 1	(All)
Added material 2	(All)
m/w (g/L) for Material 2	(All)

Output list

Automatically generated Table containing the NL / WL (g m-2) or pH data corresponding to the e

Experiment code #	JSS Report Nr.	page or Table	leach time (d) =>	3	7	14	28	56	91	182	330
JSSA-90-10-A--ben2000-NL(B)	87-01	p4:12									
JSSA-90-10-A-mgn33-ben133-NL(B)	88-02	p57			10.00		10.00		32.00	76.00	
JSSA-90-10-A-mgn40--NL(B)	87-01	p4:22			16.00		17.00		33.00	71.00	
JSSA-90-10-A---NL(B)	84-01/88-02	p43/p40		4.40	4.90	7.80	9.60		13.00	22.00	
JSSA-90-10-C---NL(B)	84-01	p43		1.60	3.70	5.80	13.00		21.00	36.50	
JSSA-90-10-D--ben133-NL(B)	87-01	p4:14			4.80		17.00		28.00	78.00	
JSSA-90-1100-A-mgn33-ben133-NL(B)	88-02	p57							2.87	3.30	
JSSA-90-1100-A---NL(B)	88-02	p40							1.29	1.72	
JSSA-90-4000-A---NL(B)	88-02	p40							0.64		

Read me | Compos | References | Select data | NL(B) | NL(Li) | NL(Mo) | NL(Na) | WL | pH | Data summary

C

Fig. 4c – Example of filter selection to generate a subset data table (see text for explanation)

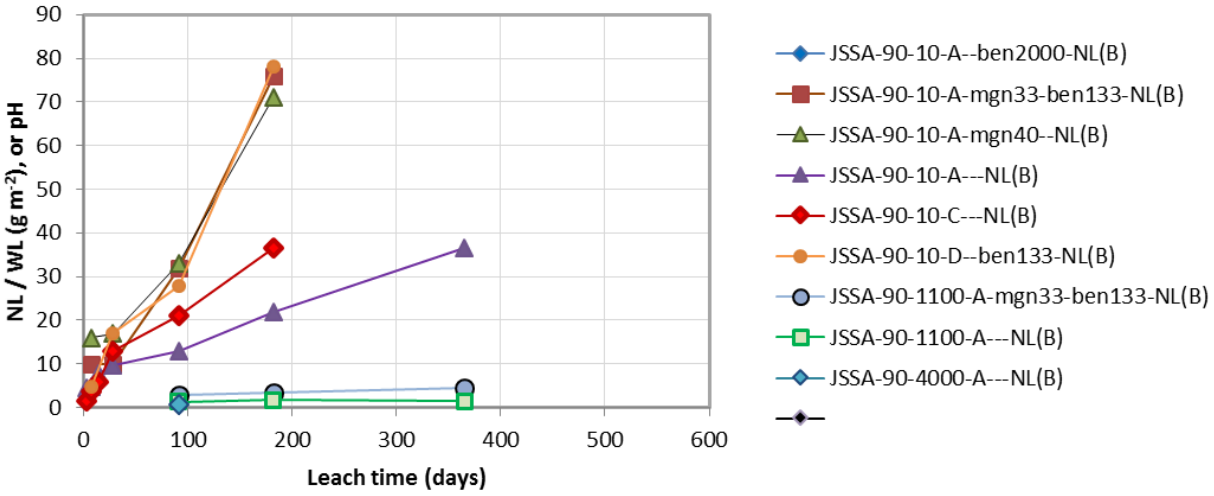


Fig. 5 – Automatically generated plot corresponding to the data selection presented in Fig. 4

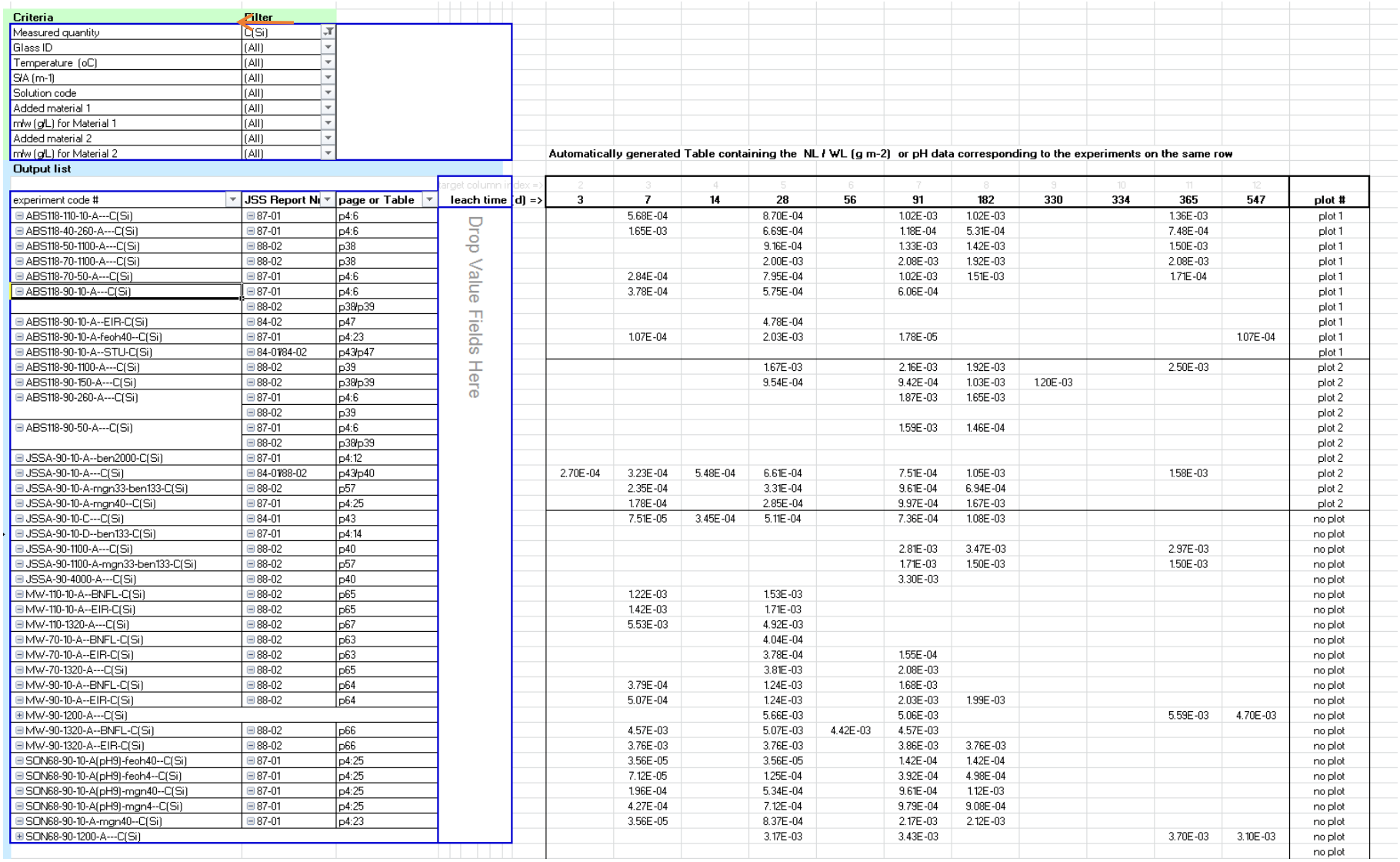
3.4 Application example

In this section, we give a practical example on how the electronic JSS database can be used. We want to analyze the Si concentration data and plot them as a function of various parameters, such as surface area to solution volume ratio (S/V), temperature and the influence of added materials.

The first step is to extract all Si concentration data. For this purpose, one simply selects 'C(Si)' as filter value for 'Measured quantity', while keeping all other Filter values to '(All)'. As a result, all experiments including at least one silica concentration value are listed row by row, and the corresponding data displayed in the automatically generated Table on the right (Fig. 6).

The data with the experimental codes are then copied and pasted as values into a separate worksheet. After manual manipulations, the data may be arranged and colour-coded in a sequence of decreasing temperature (Fig. 7). The desired data can then be plotted using additional criteria, which can be directly extracted from the experimental code. For instance, Fig. 8 shows all Si concentration data for 90 ^{o}C experiments without other materials added and with S/V ≥ 1000 m^{-1} (only at high S/V the so-called Si saturation state is reached within laboratory time scale). The data are colour-coded to easily identify the 4 glasses used in the JSS experiments. It is clearly visible that leaching of the MW glass leads to higher aqueous Si concentrations than the AREVA glasses (ABS-118, JSSA and SON68).

It is beyond the scope of this report to give any interpretation of the above result. This example just serves to show that the electronic JSS database greatly facilitates recognition of systematic trends in the JSS glass corrosion data.



Criteria	Filter
Measured quantity	C(Si)
Glass ID	(All)
Temperature (oC)	(All)
SIA (m-1)	(All)
Solution code	(All)
Added material 1	(All)
m/v (g/L) for Material 1	(All)
Added material 2	(All)
m/v (g/L) for Material 2	(All)

Automatically generated Table containing the NL / WL (g m-2) or pH data corresponding to the experiments on the same row

Output list

Drop Value Fields Here

experiment code #	JSS Report N	page or Table	leach time (d) =>	3	7	14	28	56	91	182	330	334	365	547	plot #
ABS118-110-10-A---C(Si)	87-01	p4:6			5.68E-04		8.70E-04		1.02E-03	1.02E-03			1.36E-03		plot 1
ABS118-40-260-A---C(Si)	87-01	p4:6			1.65E-03		6.69E-04		1.18E-04	5.31E-04			7.48E-04		plot 1
ABS118-50-1100-A---C(Si)	88-02	p38					9.16E-04		1.33E-03	1.42E-03			1.50E-03		plot 1
ABS118-70-1100-A---C(Si)	88-02	p38					2.00E-03		2.08E-03	1.92E-03			2.08E-03		plot 1
ABS118-70-50-A---C(Si)	87-01	p4:6			2.84E-04		7.95E-04		1.02E-03	1.51E-03			1.71E-04		plot 1
ABS118-90-10-A---C(Si)	87-01	p4:6			3.78E-04		5.75E-04		6.06E-04						plot 1
	88-02	p38/p39													plot 1
ABS118-90-10-A--EIR-C(Si)	84-02	p47					4.78E-04								plot 1
ABS118-90-10-A-feoh40--C(Si)	87-01	p4:23			1.07E-04		2.03E-03		1.78E-05					1.07E-04	plot 1
ABS118-90-10-A--STU-C(Si)	84-01184-02	p43/p47													plot 1
ABS118-90-1100-A---C(Si)	88-02	p39					1.67E-03		2.16E-03	1.92E-03			2.50E-03		plot 2
ABS118-90-150-A---C(Si)	88-02	p38/p39					9.54E-04		9.42E-04	1.03E-03	1.20E-03				plot 2
ABS118-90-260-A---C(Si)	87-01	p4:6							1.87E-03	1.65E-03					plot 2
	88-02	p39													plot 2
ABS118-90-50-A---C(Si)	87-01	p4:6							1.59E-03	1.46E-04					plot 2
	88-02	p38/p39													plot 2
JSSA-90-10-A--ben2000-C(Si)	87-01	p4:12													plot 2
JSSA-90-10-A---C(Si)	84-01188-02	p43/p40		2.70E-04	3.23E-04	5.48E-04	6.61E-04		7.51E-04	1.05E-03			1.58E-03		plot 2
JSSA-90-10-A-mgn33-ben133-C(Si)	88-02	p57			2.35E-04		3.31E-04		9.61E-04	6.94E-04					plot 2
JSSA-90-10-A-mgn40--C(Si)	87-01	p4:25			1.78E-04		2.85E-04		9.97E-04	1.67E-03					plot 2
JSSA-90-10-C---C(Si)	84-01	p43			7.51E-05	3.45E-04	5.11E-04		7.36E-04	1.08E-03					no plot
JSSA-90-10-D--ben133-C(Si)	87-01	p4:14													no plot
JSSA-90-1100-A---C(Si)	88-02	p40							2.81E-03	3.47E-03			2.97E-03		no plot
JSSA-90-1100-A-mgn33-ben133-C(Si)	88-02	p57							1.71E-03	1.50E-03			1.50E-03		no plot
JSSA-90-4000-A---C(Si)	88-02	p40							3.30E-03						no plot
MW-110-10-A--BNFL-C(Si)	88-02	p65			1.22E-03		1.53E-03								no plot
MW-110-10-A--EIR-C(Si)	88-02	p65			1.42E-03		1.71E-03								no plot
MW-110-1320-A---C(Si)	88-02	p67			5.53E-03		4.92E-03								no plot
MW-70-10-A--BNFL-C(Si)	88-02	p63					4.04E-04								no plot
MW-70-10-A--EIR-C(Si)	88-02	p63					3.78E-04		1.55E-04						no plot
MW-70-1320-A---C(Si)	88-02	p65					3.81E-03		2.08E-03						no plot
MW-90-10-A--BNFL-C(Si)	88-02	p64			3.79E-04		1.24E-03		1.68E-03						no plot
MW-90-10-A--EIR-C(Si)	88-02	p64			5.07E-04		1.24E-03		2.03E-03	1.99E-03					no plot
MW-90-1200-A---C(Si)							5.66E-03		5.06E-03				5.59E-03	4.70E-03	no plot
MW-90-1320-A--BNFL-C(Si)	88-02	p66			4.57E-03		5.07E-03	4.42E-03	4.57E-03						no plot
MW-90-1320-A--EIR-C(Si)	88-02	p66			3.76E-03		3.76E-03		3.86E-03	3.76E-03					no plot
SON68-90-10-A(pH9)-feoh40--C(Si)	87-01	p4:25			3.56E-05		3.56E-05		1.42E-04	1.42E-04					no plot
SON68-90-10-A(pH9)-feoh4--C(Si)	87-01	p4:25			7.12E-05		1.25E-04		3.92E-04	4.98E-04					no plot
SON68-90-10-A(pH9)-mgn40--C(Si)	87-01	p4:25			1.96E-04		5.34E-04		9.61E-04	1.12E-03					no plot
SON68-90-10-A(pH9)-mgn4--C(Si)	87-01	p4:25			4.27E-04		7.12E-04		9.79E-04	9.08E-04					no plot
SON68-90-10-A-mgn40--C(Si)	87-01	p4:23			3.56E-05		8.37E-04		2.17E-03	2.12E-03					no plot
SON68-90-1200-A---C(Si)							3.17E-03		3.43E-03				3.70E-03	3.10E-03	no plot
															no plot

Fig. 6 – Extraction of all available Si concentration data. The arrow shows the filter value set to 'C(Si)', while all other Filters are set to '(All)'.

	Leach time (days)	ABS118-110-10-A---C(Si)	MW-110-10-A--BNFL-C(Si)	MW-110-10-A--EIR-C(Si)	MW-110-1320-A---C(Si)	ABS118-90-10-A---C(Si)	ABS118-90-10-A--EIR-C(Si)	ABS118-90-10-A-feoh40--C(Si)	MW-E
3	3	4.62E-04							
4	7	5.68E-04	1.22E-03	1.42E-03	5.53E-03	3.78E-04		1.07E-04	3.
5	14								
6	28	8.70E-04	1.53E-03	1.71E-03	4.92E-03	5.75E-04	4.78E-04	2.03E-03	3.
7	56								
8	91	1.02E-03				6.06E-04		1.78E-05	3.
9	182	1.02E-03							3.
10	330								
11	334								
12	365	1.36E-03							
13	547							1.07E-04	

MW-90-1320-A--EIR-C(Si)	SON68-90-10-A(pH9)-feoh40--C(Si)	SON68-90-10-A(pH9)-feoh4--C(Si)	SON68-90-10-A(pH9)-mgn40--C(Si)	SON68-90-10-A(pH9)-mgn4--C(Si)	SON68-90-10-A-mgn40--C(Si)	SON68-90-1200-A---C(Si)	ABS118-70-1100-A---C(Si)	ABS118-70-50-A---C(Si)	MW-70-10-A--BNFL-C(Si)	MW-70-10-A--EIR-C(Si)	MW-70-1320-A--C(Si)	ABS118-50-1100-A---C(Si)	ABS118-40-260-A---C(Si)
3.76E-03	3.56E-05	7.12E-05	1.96E-04	4.27E-04	3.56E-05			2.84E-04					1.65E-03
3.76E-03	3.56E-05	1.25E-04	5.34E-04	7.12E-04	8.37E-04	3.17E-03	2.00E-03	7.95E-04	4.04E-04	3.78E-04	3.81E-03	9.16E-04	6.69E-04
3.86E-03	1.42E-04	3.92E-04	9.61E-04	9.79E-04	2.17E-03	3.43E-03	2.08E-03	1.02E-03		1.55E-04	2.08E-03	1.33E-03	1.18E-04
3.76E-03	1.42E-04	4.98E-04	1.12E-03	9.08E-04	2.12E-03		1.92E-03	1.51E-03				1.42E-03	5.31E-04
						3.70E-03	2.08E-03	1.71E-04				1.50E-03	7.48E-04
						3.10E-03							

Fig. 7 – Manual rearrangement of extracted data (Fig. 6) colour coded with decreasing temperature (the temperature in ^{o}C appears after the first hyphen in the experiment ID code, row 2).

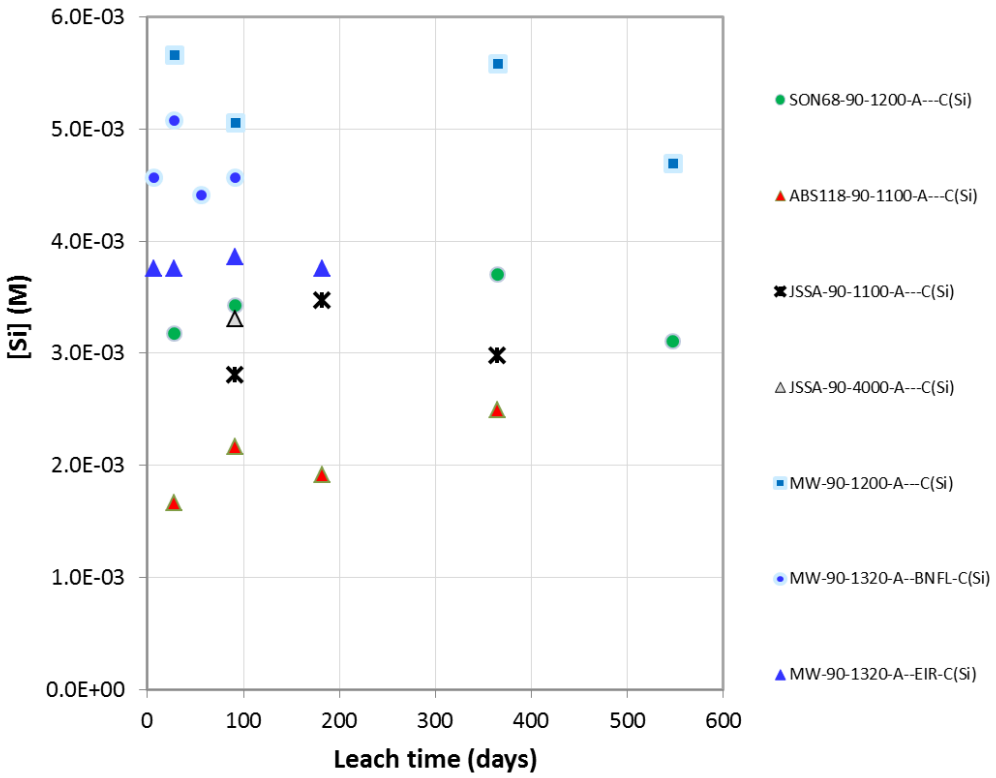


Fig. 8 – Graph generated from manual filtering of the data displayed in Fig. 7. Only 90 ^{o}C data for experiments without secondary material addition and S/V ≥ 1000 m^{-1} were plotted and colour-coded according to the four glass types.

Disclaimer

The JSS-database (version dated 19.09.18) was prepared based on the limited manpower of 1 man-month, as agreed with Nagra for this project. Not all the data could be integrated and testing of the functionality of the Pivot table could be carried out only to a limited extent. Mistyping errors in the process of transferring the data from paper to electronic form cannot be excluded, although the author took the maximum possible care to avoid them. Therefore, the database is released without any warranty for the correctness of all data and full functionality of the spreadsheet.

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Appendix 1 – Listing of electronic JSS database

Table A1 - Printout of worksheet 'Data Summary' from the electronic Excel database (JSS_database_2018-09-18.xlsx)

Experiment information												Leach time (days)										
JSS Report Nr.	**page or Table**	**glass**	**Temp (0C)**	**S/A (m-1)**	**solution**	**material 1**	**m/w (g/L)**	**material 2**	**m/w (g/L)**	**quantity**	**exp. code #**	**3**	**7**	**14**	**28**	**56**	**91**	**182**	**330**	**334**	**365**	**547**
87-01	p4:14	ABS118	90	10	D			ben	1.67	NL(B)	ABS118-90-10-D--ben1.67-NL(B)		17		35		46	48				
87-01	p4:14	ABS118	90	10	D			ben	6.67	NL(B)	ABS118-90-10-D--ben6.67-NL(B)		14		36		51	53				
87-01	p4:14	ABS118	90	10	D			ben	33.3	NL(B)	ABS118-90-10-D--ben33.3-NL(B)		6.2		17		19	25				
87-01	p4:14	ABS118	90	10	D			ben	133	NL(B)	ABS118-90-10-D--ben133-NL(B)		19		11		12					
88-02	p57	ABS118	90	1100	A	mgn	33	ben	133	NL(B)	ABS118-90-1100-A-mgn33-ben133-NL(B)				1.98		2.76	3.78		3.67		
87-01	p4:22	ABS118	90	10	A	mgn	0.04			NL(B)	ABS118-90-10-A-mgn0.04--NL(B)				7		8	10			13	12

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:22	ABS118	90	10	A	mgn	0.4			NL(B)	ABS118-90-10-A-mgn0.4--NL(B)		3		6		9	11			12	12
87-01	p4:23	ABS118	90	10	A	mgn*	4			NL(B)	ABS118-90-10-A-mgn*4--NL(B)				5		8	12				
87-01	p4:22	ABS118	90	10	A	mgn	4			NL(B)	ABS118-90-10-A-mgn4--NL(B)		2		10		12	17			36	39
87-01	p4:23	ABS118	90	10	A	mgn*	40			NL(B)	ABS118-90-10-A-mgn*40--NL(B)				11		20	24				
87-01	p4:22	ABS118	90	10	A	mgn	40			NL(B)	ABS118-90-10-A-mgn40--NL(B)		2		28		58	70			96	106
88-02	p55	ABS118	90	1320	A	mgn	40			NL(B)	ABS118-90-1320-A-mgn40--NL(B)				1.13		1.04	1.49	3.43			
88-02	p56	ABS118	90	1050	A	mgn	320			NL(B)	ABS118-90-1050-A-mgn320--NL(B)				1.75	1.96						
87-01	p4:11	ABS118	90	10	A (pH2.5)					NL(B)	ABS118-90-10-A(pH2.5)--NL(B)			57	68							
87-01	p4:11	ABS118	90	10	A (pH5.6)					NL(B)	ABS118-90-10-A(pH5.6)--NL(B)			4.4	8.1							

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:11	ABS118	90	10	A (pH6.1)					NL(B)	ABS118-90-10-A(pH6.1)---NL(B)			3.1	5.4							
87-01	p4:11	ABS118	90	10	A (pH8.2)					NL(B)	ABS118-90-10-A(pH8.2)---NL(B)			5.7	9							
87-01	p4:11	ABS118	90	10	A (unbf.)					NL(B)	ABS118-90-10-A(pH9 unbf.)---NL(B)			8.1	7.7							
87-01	p4:23	ABS118	90	10	A	feoh	40			NL(B)	ABS118-90-10-A-feoh40--NL(B)				39		26	35			83	141
84-01/84-02	p43/p47	ABS118	90	10	A					NL(B)	ABS118-90-10-A---NL(B)				9.7							
84-02	p47	ABS118	90	10	A					NL(B)	ABS118-90-10-A---NL(B)				8.1							
88-02	p38/p39	ABS118	90	10	A					NL(B)	ABS118-90-10-A---NL(B)		6.7		7.7		8					
88-02	p38/p39	ABS118	90	50	A					NL(B)	ABS118-90-50-A---NL(B)						11	10				
88-02	p38/p39	ABS118	90	150	A					NL(B)	ABS118-90-150-A---NL(B)				1.45		1.51	1.52	1.98			
88-02	p39	ABS118	90	260	A					NL(B)	ABS118-90-260-A---NL(B)						3.8	2.3				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p39	ABS118	90	1100	A					NL(B)	ABS118-90-1100-A---NL(B)				0.5		0.81	0.79			1.18	
88-02	p38	ABS118	70	1100	A					NL(B)	ABS118-70-1100-A---NL(B)				0.79		0.89	0.96			1	
88-02	p38	ABS118	50	1100	A					NL(B)	ABS118-50-1100-A---NL(B)				0.26		0.61	0.83			0.83	
87-01	p4:6	ABS118	40	260	A					NL(B)	ABS118-40-260-A---NL(B)		0.04		0.08		0.19	0.15			0.15	
87-01	p4:6	ABS118	70	50	A					NL(B)	ABS118-70-50-A---NL(B)		0.8		1.4		5.9	10.5			12	
87-01	p4:6	ABS118	90	260	A					NL(B)	ABS118-90-260-A---NL(B)		0.8		3.2		3.8	2.3				
87-01	p4:6	ABS118	90	50	A					NL(B)	ABS118-90-50-A---NL(B)		1.8		3		11	10.3				
87-01	p4:6	ABS118	90	10	A					NL(B)	ABS118-90-10-A---NL(B)		6.7		7.7		8					
87-01	p4:6	ABS118	110	10	A					NL(B)	ABS118-110-10-A---NL(B)	6.4	8.2		14		22	20			23	
87-01	p4:12	JSSA	90	10	A			ben	2000	NL(B)	JSSA-90-10-A--ben2000-NL(B)											
87-01	p4:14	JSSA	90	10	D			ben	133	NL(B)	JSSA-90-10-D--ben133-NL(B)		4.80		17		28	78				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p57	JSSA	90	10	A	mgn	33	ben	133	NL(B)	JSSA-90-10-A-mgn33-ben133-NL(B)		10		10		32	76				
88-02	p57	JSSA	90	1100	A	mgn	33	ben	133	NL(B)	JSSA-90-1100-A-mgn33-ben133-NL(B)						2.87	3.3			4.41	
87-01	p4:22	JSSA	90	10	A	mgn	40			NL(B)	JSSA-90-10-A-mgn40---NL(B)		16		17		33	71				
84-01/88-02	p43/p40	JSSA	90	10	A					NL(B)	JSSA-90-10-A---NL(B)	4.40	4.90	7.80	9.60		13	22			36.50	
84-01	p43	JSSA	90	10	C					NL(B)	JSSA-90-10-C---NL(B)	1.60	3.70	5.80	13		21	36.5				
88-02	p40	JSSA	90	1100	A					NL(B)	JSSA-90-1100-A---NL(B)						1.29	1.72			1.43	
88-02	p40	JSSA	90	4000	A					NL(B)	JSSA-90-4000-A---NL(B)						0.64					
87-01	p4:23	SON68	90	10	A	mgn	40			NL(B)	SON68-90-10-A-mgn40---NL(B)		3		15		56	67			81	87
GLASS_new.xls	#6	SON68	90	1200	A					NL(B)	SON68-90-1200-A---NL(B)				1.01		1.10				1.15	1.23
GLASS_new.xls	#7	SON68	90	1200	A					NL(B)	SON68-90-1200-A---NL(B)				0.94		1.04				1.12	1.19

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
GLASS_new .xls	#8	SON68	90	1200	A					NL(B)	SON68-90-1200-A---NL(B)				0.97		1.1				1.14	1.2
GLASS_new .xls	#9	SON68	90	1200	A					NL(B)	SON68-90-1200-A---NL(B)				0.94		1.08				1.14	1.17
GLASS_new .xls	#10	SON68	90	1200	A					NL(B)	SON68-90-1200-A---NL(B)				0.97		1.04				1.15	1.21
87-01	p4:24	SON68	90	10	A(pH9)	mgn	40			NL(B)	SON68-90-10-A(pH9)-mgn40--NL(B)		20		38		36	62				
87-01	p4:24	SON68	90	10	A(pH9)	mgn	4			NL(B)	SON68-90-10-A(pH9)-mgn4--NL(B)		18		24		18	29				
87-01	p4:24	SON68	90	10	A(pH9)	feoh	40			NL(B)	SON68-90-10-A(pH9)-feoh40--NL(B)		31		64		68	88				
87-01	p4:24	SON68	90	10	A(pH9)	feoh	4			NL(B)	SON68-90-10-A(pH9)-feoh4--NL(B)		19		55		60	53				
88-02	p65	MW	110	10	A					NL(B)	MW-110-10-A---NL(B)		32.05		72.35							
88-02	p65	MW	110	10	A					NL(B)	MW-110-10-A---NL(B)		28.27		64.88							
88-02	p64	MW	90	10	A					NL(B)	MW-90-10-A---NL(B)		8.79		33.7		110	107.5				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p64	MW	90	10	A					NL(B)	MW-90-10-A---NL(B)		3.78		28.05		77.6					
88-02	p63	MW	70	10	A					NL(B)	MW-70-10-A---NL(B)				5.48		3.15					
88-02	p63	MW	70	10	A					NL(B)	MW-70-10-A---NL(B)				6.67							
88-02	p67	MW	110	1320	A					NL(B)	MW-110-1320-A---NL(B)		8.86		9.46							
88-02	p66	MW	90	1320	A					NL(B)	MW-90-1320-A---NL(B)		5.27		8.08		9.65	9.21			9.95	
88-02	p66	MW	90	1320	A					NL(B)	MW-90-1320-A---NL(B)		4.38		8.05	7.84	8.88					
88-02	p65	MW	70	1320	A					NL(B)	MW-70-1320-A---NL(B)				3.99		4.34					
GLASS_new.xls	#1	MW	90	1200	A					NL(B)	MW-90-1200-A---NL(B)				6.53		7.39				8.68	9.31
GLASS_new.xls	#2	MW	90	1200	A					NL(B)	MW-90-1200-A---NL(B)				6.11		7.46				8.73	9.25
GLASS_new.xls	#3	MW	90	1200	A					NL(B)	MW-90-1200-A---NL(B)				6.98		8.21				9.16	9.77
GLASS_new.xls	#4	MW	90	1200	A					NL(B)	MW-90-1200-A---NL(B)				6.96		8.79				9.97	10.58

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
GLASS_new .xls	#5	MW	90	1200	A					NL(B)	MW-90-1200-A---NL(B)				6.25		7.54				8.62	9.34
87-01	p4:14	ABS118	90	10	D			ben	1.67	NL(Li)	ABS118-90-10-D--ben1.67-NL(Li)		18		41		36	50				
87-01	p4:14	ABS118	90	10	D			ben	6.67	NL(Li)	ABS118-90-10-D--ben6.67-NL(Li)		13		38		36	53				
87-01	p4:14	ABS118	90	10	D			ben	33.3	NL(Li)	ABS118-90-10-D--ben33.3-NL(Li)		4		13		13	22				
87-01	p4:14	ABS118	90	10	D			ben	133	NL(Li)	ABS118-90-10-D--ben133-NL(Li)											
88-02	p57	ABS118	90	1100	A	mgn	33	ben	133	NL(Li)	ABS118-90-1100-A-mgn33-ben133-NL(Li)				1.31		1.42	2.01	2.13			
87-01	p4:22	ABS118	90	10	A	mgn	0.04			NL(Li)	ABS118-90-10-A-mgn0.04--NL(Li)											
87-01	p4:22	ABS118	90	10	A	mgn	0.4			NL(Li)	ABS118-90-10-A-mgn0.4--NL(Li)											
87-01	p4:23	ABS118	90	10	A	mgn*	4			NL(Li)	ABS118-90-10-A-mgn*4--NL(Li)											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:22	ABS118	90	10	A	mgn	4			NL(Li)	ABS118-90-10-A-mgn4--NL(Li)											
87-01	p4:23	ABS118	**90**	10	A	mgn*	40			NL(Li)	ABS118-90-10-A-mgn*40--NL(Li)											
87-01	p4:22	ABS118	**90**	10	A	mgn	40			NL(Li)	ABS118-90-10-A-mgn40--NL(Li)											
88-02	p55	ABS118	**90**	1320	A	mgn	40			NL(Li)	ABS118-90-1320-A-mgn40--NL(Li)				0.98							
88-02	p56	ABS118	**90**	1050	A	mgn	320			NL(Li)	ABS118-90-1050-A-mgn320--NL(Li)				1.43	1.38	1.46	1.23	2.24			
87-01	p4:11	ABS118	**90**	10	A(pH2.5)					NL(Li)	ABS118-90-10-A(pH2.5)--NL(Li)											
87-01	p4:11	ABS118	**90**	10	A(pH5.6)					NL(Li)	ABS118-90-10-A(pH5.6)--NL(Li)											
87-01	p4:11	ABS118	**90**	10	A(pH6.1)					NL(Li)	ABS118-90-10-A(pH6.1)--NL(Li)											
87-01	p4:11	ABS118	90	10	A(pH8.2)					NL(Li)	ABS118-90-10-A(pH8.2)--NL(Li)											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:11	ABS118	90	10	A(pH9 unbf.)					NL(Li)	ABS118-90-10-A(pH9 unbf.)---NL(Li)											
87-01	p4:23	ABS118	90	10	A	feoh	40			NL(Li)	ABS118-90-10-A-feoh40--NL(Li)											
84-01/84-02	p43/p47	ABS118	90	10	A					NL(Li)	ABS118-90-10-A---NL(Li)											
84-02	p47	ABS118	90	10	A					NL(Li)	ABS118-90-10-A---NL(Li)											
88-02	p38/p39	ABS118	90	10	A					NL(Li)	ABS118-90-10-A---NL(Li)		7.20		10		11					
88-02	p38/p39	ABS118	90	50	A					NL(Li)	ABS118-90-50-A---NL(Li)						10	10				
88-02	p38/p39	ABS118	90	150	A					NL(Li)	ABS118-90-150-A---NL(Li)				1.51		1.68	1.69	2.18			
88-02	p39	ABS118	90	260	A					NL(Li)	ABS118-90-260-A---NL(Li)						3.2	2.9				
88-02	p39	ABS118	90	1100	A					NL(Li)	ABS118-90-1100-A---NL(Li)				0.77		0.98	0.84			1.41	
88-02	p38	ABS118	70	1100	A					NL(Li)	ABS118-70-1100-A---NL(Li)				1.21		1.02	1.02			1.17	

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p38	ABS118	50	1100	A					NL(Li)	ABS118-50-1100-A---NL(Li)				0.36		0.73	0.83			0.95	
87-01	p4:6	ABS118	40	260	A					NL(Li)	ABS118-40-260-A---NL(Li)											
87-01	p4:6	ABS118	70	50	A					NL(Li)	ABS118-70-50-A---NL(Li)											
87-01	p4:6	ABS118	90	260	A					NL(Li)	ABS118-90-260-A---NL(Li)											
87-01	p4:6	ABS118	90	50	A					NL(Li)	ABS118-90-50-A---NL(Li)											
87-01	p4:6	ABS118	90	10	A					NL(Li)	ABS118-90-10-A---NL(Li)											
87-01	p4:6	ABS118	110	10	A					NL(Li)	ABS118-110-10-A---NL(Li)											
87-01	p4:12	JSSA	90	10	A			ben	2000	NL(Li)	JSSA-90-10-A--ben2000-NL(Li)											
87-01	p4:14	JSSA	90	10	D			ben	133	NL(Li)	JSSA-90-10-D--ben133-NL(Li)		2.30		10		23	45				
88-02	p57	JSSA	90	10	A	mgn	33	ben	133	NL(Li)	JSSA-90-10-A-mgn33-ben133-NL(Li)		6		20		76	122				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p57	JSSA	90	1100	A	mgn	33	ben	133	NL(Li)	JSSA-90-1100-A-mgn33-ben133-NL(Li)						1.15	1.35			2.05	
87-01	p4:22	JSSA	90	10	A	mgn	40			NL(Li)	JSSA-90-10-A-mgn40--NL(Li)											
84-01/88-02	p43/p40	JSSA	90	10	A					NL(Li)	JSSA-90-10-A---NL(Li)	6.8	9.2	11	13		16	25			45	
84-01	p43	JSSA	90	10	C					NL(Li)	JSSA-90-10-C---NL(Li)	2.7	4.1	6.2	17		25	45				
88-02	p40	JSSA	90	1100	A					NL(Li)	JSSA-90-1100-A---NL(Li)						1.65	1.63			1.71	
88-02	p40	JSSA	90	4000	A					NL(Li)	JSSA-90-4000-A---NL(Li)						0.73					
87-01	p4:23	SON68	90	10	A	mgn	40			NL(Li)	SON68-90-10-A-mgn40--NL(Li)											
GLASS_new .xls	#6	SON68	90	1200	A					NL(Li)	SON68-90-1200-A---NL(Li)				1.09		1.15				1.27	1.38
GLASS_new .xls	#7	SON68	90	1200	A					NL(Li)	SON68-90-1200-A---NL(Li)				1.07		1.10				1.24	1.31
GLASS_new .xls	#8	SON68	90	1200	A					NL(Li)	SON68-90-1200-A---NL(Li)				1.05		1.18				1.24	1.35

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
GLASS_new .xls	#9	SON68	90	1200	A					NL(Li)	SON68-90-1200-A---NL(Li)				0.99		1.16				1.25	1.25
GLASS_new .xls	#10	SON68	90	1200	A					NL(Li)	SON68-90-1200-A---NL(Li)				1.03		1.1				1.28	1.33
87-01	p4:24	SON68	90	10	A(pH9)	mgn	40			NL(Li)	SON68-90-10-A(pH9)-mgn40--NL(Li)											
87-01	p4:24	SON68	90	10	A(pH9)	mgn	4			NL(Li)	SON68-90-10-A(pH9)-mgn4--NL(Li)											
87-01	p4:24	SON68	90	10	A(pH9)	feoh	40			NL(Li)	SON68-90-10-A(pH9)-feoh40--NL(Li)											
87-01	p4:24	SON68	90	10	A(pH9)	feoh	4			NL(Li)	SON68-90-10-A(pH9)-feoh4--NL(Li)											
88-02	p65	MW	110	10	A					NL(Li)	MW-110-10-A---NL(Li)		32.60		72.90							
88-02	p65	MW	110	10	A					NL(Li)	MW-110-10-A---NL(Li)		30.67		62.49							
88-02	p64	MW	90	10	A					NL(Li)	MW-90-10-A---NL(Li)		10.05		36.2		102.5	108				
88-02	p64	MW	90	10	A					NL(Li)	MW-90-10-A---NL(Li)		6.84		28.62		74.76					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p63	MW	70	10	A					NL(Li)	MW-70-10-A--NL(Li)				4.78		3.84					
88-02	p63	MW	70	10	A					NL(Li)	MW-70-10-A--NL(Li)				6.75							
88-02	p67	MW	110	1320	A					NL(Li)	MW-110-1320-A---NL(Li)		7.64		8.34							
88-02	p66	MW	90	1320	A					NL(Li)	MW-90-1320-A---NL(Li)		5.49		8.24		8.12	7.69			9.95	
88-02	p66	MW	90	1320	A					NL(Li)	MW-90-1320-A---NL(Li)		4.19		6.99	7.36	7.61					
88-02	p65	MW	70	1320	A					NL(Li)	MW-70-1320-A---NL(Li)				3.63		3.57					
GLASS_new .xls	#1	MW	90	1200	A					NL(Li)	MW-90-1200-A---NL(Li)				5.59		6.49				7.36	7.79
GLASS_new .xls	#2	MW	90	1200	A					NL(Li)	MW-90-1200-A---NL(Li)				5.49		6.45				7.53	7.75
GLASS_new .xls	#3	MW	90	1200	A					NL(Li)	MW-90-1200-A---NL(Li)				6.25		6.68				7.38	8.09
GLASS_new .xls	#4	MW	90	1200	A					NL(Li)	MW-90-1200-A---NL(Li)				5.63		6.65				7.62	8.16
GLASS_new .xls	#5	MW	90	1200	A					NL(Li)	MW-90-1200-A---NL(Li)				5.40		6.46				7.43	7.54

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:14	ABS118	90	10	D			ben	1.67	NL(Mo)	ABS118-90-10-D--ben1.67-NL(Mo)		16		34		48	48				
87-01	p4:14	ABS118	90	10	D			ben	6.67	NL(Mo)	ABS118-90-10-D--ben6.67-NL(Mo)		13		36		53	57				
87-01	p4:14	ABS118	90	10	D			ben	33.3	NL(Mo)	ABS118-90-10-D--ben33.3-NL(Mo)		6.7		22		43	40				
87-01	p4:14	ABS118	90	10	D			ben	133	NL(Mo)	ABS118-90-10-D--ben133-NL(Mo)		13		9		16					
88-02	p57	ABS118	90	1100	A	mgn	33	ben	133	NL(Mo)	ABS118-90-1100-A-mgn33-ben133-NL(Mo)											
87-01	p4:22	ABS118	90	10	A	mgn	0.04			NL(Mo)	ABS118-90-10-A-mgn0.04--NL(Mo)				6		8	15			16	10
87-01	p4:22	ABS118	90	10	A	mgn	0.4			NL(Mo)	ABS118-90-10-A-mgn0.4--NL(Mo)		7		7		8	16			16	11
87-01	p4:23	ABS118	90	10	A	mgn*	4			NL(Mo)	ABS118-90-10-A-mgn*4--NL(Mo)				5		10	15				
87-01	p4:22	ABS118	90	10	A	mgn	4			NL(Mo)	ABS118-90-10-A-mgn4--NL(Mo)		5		16		15	25			59	43

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:23	ABS118	90	10	A	mgn*	40			NL(Mo)	ABS118-90-10-A-mgn*40--NL(Mo)				16		36	47				
87-01	p4:22	ABS118	90	10	A	mgn	40			NL(Mo)	ABS118-90-10-A-mgn40--NL(Mo)		3		48		83	38			66	52
88-02	p55	ABS118	90	1320	A	mgn	40			NL(Mo)	ABS118-90-1320-A-mgn40--NL(Mo)				0.70		0.68	0.81	1.24			
88-02	p56	ABS118	90	1050	A	mgn	320			NL(Mo)	ABS118-90-1050-A-mgn320--NL(Mo)				1.34	1.73						
87-01	p4:11	ABS118	90	10	A(pH2.5)					NL(Mo)	ABS118-90-10-A(pH2.5)---NL(Mo)			5.30	8.3							
87-01	p4:11	ABS118	90	10	A(pH5.6)					NL(Mo)	ABS118-90-10-A(pH5.6)---NL(Mo)			0.20	0.7							
87-01	p4:11	ABS118	90	10	A(pH6.1)					NL(Mo)	ABS118-90-10-A(pH6.1)---NL(Mo)			0.45	0.8							
87-01	p4:11	ABS118	90	10	A(pH8.2)					NL(Mo)	ABS118-90-10-A(pH8.2)---NL(Mo)			5.50	8.2							
87-01	p4:11	ABS118	90	10	A(pH9 unbf.)					NL(Mo)	ABS118-90-10-A(pH9 unbf.)----NL(Mo)			8.30	8.4							

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:23	ABS118	90	10	A	feoh	40			NL(Mo)	ABS118-90-10-A-feoh40--NL(Mo)		10		118		182	138			393	338
84-01/84-02	p43/p47	ABS118	90	10	A					NL(Mo)	ABS118-90-10-A---NL(Mo)				9.2							
84-02	p47	ABS118	90	10	A					NL(Mo)	ABS118-90-10-A---NL(Mo)				9.8							
88-02	p38/p39	ABS118	90	10	A					NL(Mo)	ABS118-90-10-A---NL(Mo)		6.5		8.4		8.6					
88-02	p38/p39	ABS118	90	50	A					NL(Mo)	ABS118-90-50-A---NL(Mo)						11	9.20				
88-02	p38/p39	ABS118	90	150	A					NL(Mo)	ABS118-90-150-A---NL(Mo)				1.47		1.38	1.50	1.74			
88-02	p39	ABS118	90	260	A					NL(Mo)	ABS118-90-260-A---NL(Mo)						2.70	2				
88-02	p39	ABS118	90	1100	A					NL(Mo)	ABS118-90-1100-A---NL(Mo)				0.42		0.73	0.54			0.82	
88-02	p38	ABS118	70	1100	A					NL(Mo)	ABS118-70-1100-A---NL(Mo)				0.83		0.92	0.89			0.94	
88-02	p38	ABS118	50	1100	A					NL(Mo)	ABS118-50-1100-A---NL(Mo)				0.27		0.66	0.76			0.84	

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:6	ABS118	40	260	A					NL(Mo)	ABS118-40-260-A---NL(Mo)		0.03		0.04		0.16				0.04	
87-01	p4:6	ABS118	70	50	A					NL(Mo)	ABS118-70-50-A---NL(Mo)		1		1.50		5.50	9.50			9.90	
87-01	p4:6	ABS118	90	260	A					NL(Mo)	ABS118-90-260-A---NL(Mo)		0.49		2.40		2.70	2				
87-01	p4:6	ABS118	90	50	A					NL(Mo)	ABS118-90-50-A---NL(Mo)		2		3.20		10.50	9.20				
87-01	p4:6	ABS118	90	10	A					NL(Mo)	ABS118-90-10-A---NL(Mo)		6.50		8.40		8.60					
87-01	p4:6	ABS118	110	10	A					NL(Mo)	ABS118-110-10-A---NL(Mo)	7.20	9.10		16		20	18			21	
87-01	p4:12	JSSA	90	10	A			ben	2000	NL(Mo)	JSSA-90-10-A--ben2000-NL(Mo)											
87-01	p4:14	JSSA	90	10	D			ben	133	NL(Mo)	JSSA-90-10-D--ben133-NL(Mo)		12		40		61	150				
88-02	p57	JSSA	90	10	A	mgn	33	ben	133	NL(Mo)	JSSA-90-10-A-mgn33-ben133-NL(Mo)		3		17		26	141				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p57	JSSA	90	1100	A	mgn	33	ben	133	NL(Mo)	JSSA-90-1100-A-mgn33-ben133-NL(Mo)						4.57	5.05			6.62	
87-01	p4:22	JSSA	90	10	A	mgn	40			NL(Mo)	JSSA-90-10-A-mgn40--NL(Mo)		6		11		47	98				
84-01/88-02	p43/p40	JSSA	90	10	A					NL(Mo)	JSSA-90-10-A---NL(Mo)	1.50	4.10	9.60	11		15	23			38	
84-01	p43	JSSA	90	10	C					NL(Mo)	JSSA-90-10-C---NL(Mo)	1.30	3.50	7.40	14		23	34				
88-02	p40	JSSA	90	1100	A					NL(Mo)	JSSA-90-1100-A---NL(Mo)						1.56	1.86			1.67	
88-02	p40	JSSA	90	4000	A					NL(Mo)	JSSA-90-4000-A---NL(Mo)											
87-01	p4:23	SON68	90	10	A	mgn	40			NL(Mo)	SON68-90-10-A-mgn40--NL(Mo)		1		22		70	39			47	37
GLASS_new .xls	#6	SON68	90	1200	A					NL(Mo)	SON68-90-1200-A---NL(Mo)											
GLASS_new .xls	#7	SON68	90	1200	A					NL(Mo)	SON68-90-1200-A---NL(Mo)											
GLASS_new .xls	#8	SON68	90	1200	A					NL(Mo)	SON68-90-1200-A---NL(Mo)											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
GLASS_new .xls	#9	SON68	90	1200	A					NL(Mo)	SON68-90-1200-A---NL(Mo)											
GLASS_new .xls	#10	SON68	90	1200	A					NL(Mo)	SON68-90-1200-A---NL(Mo)											
87-01	p4:24	SON68	90	10	A(pH9)	mgn	40			NL(Mo)	SON68-90-10-A(pH9)-mgn40--NL(Mo)											
87-01	p4:24	SON68	90	10	A(pH9)	mgn	4			NL(Mo)	SON68-90-10-A(pH9)-mgn4--NL(Mo)											
87-01	p4:24	SON68	90	10	A(pH9)	feoh	40			NL(Mo)	SON68-90-10-A(pH9)-feoh40--NL(Mo)											
87-01	p4:24	SON68	90	10	A(pH9)	feoh	4			NL(Mo)	SON68-90-10-A(pH9)-feoh4--NL(Mo)											
88-02	p65	MW	110	10	A					NL(Mo)	MW-110-10-A---NL(Mo)		18.35		33.05							
88-02	p65	MW	110	10	A					NL(Mo)	MW-110-10-A---NL(Mo)		28.44		39.48							
88-02	p64	MW	90	10	A					NL(Mo)	MW-90-10-A---NL(Mo)		6.96		22.25		51.05	51.70				
88-02	p64	MW	90	10	A					NL(Mo)	MW-90-10-A---NL(Mo)		6.04		18.59		69.15					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p63	MW	70	10	A					NL(Mo)	MW-70-10-A---NL(Mo)				4.73		1.26					
88-02	p63	MW	70	10	A					NL(Mo)	MW-70-10-A---NL(Mo)				2.13							
88-02	p67	MW	110	1320	A					NL(Mo)	MW-110-1320-A---NL(Mo)		2.33		2.01							
88-02	p66	MW	90	1320	A					NL(Mo)	MW-90-1320-A---NL(Mo)		1.79		2.34		1.90	2.21				
88-02	p66	MW	90	1320	A					NL(Mo)	MW-90-1320-A---NL(Mo)		3.32		6.49	6.08	7.05					
88-02	p65	MW	70	1320	A					NL(Mo)	MW-70-1320-A---NL(Mo)				1.36		1.78					
GLASS_new .xls	#1	MW	90	1200	A					NL(Mo)	MW-90-1200-A-00-00-NL(Mo)											
GLASS_new .xls	#2	MW	90	1200	A					NL(Mo)	MW-90-1200-A-00-00-NL(Mo)											
GLASS_new .xls	#3	MW	90	1200	A					NL(Mo)	MW-90-1200-A-00-00-NL(Mo)											
GLASS_new .xls	#4	MW	90	1200	A					NL(Mo)	MW-90-1200-A-00-00-NL(Mo)											
GLASS_new .xls	#5	MW	90	1200	A					NL(Mo)	MW-90-1200-A-00-00-NL(Mo)											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:14	ABS118	90	10	D			ben	1.67	NL(Na)	ABS118-90-10-D--ben1.67-NL(Na)											
87-01	p4:14	ABS118	90	10	D			ben	6.67	NL(Na)	ABS118-90-10-D--ben6.67-NL(Na)											
87-01	p4:14	ABS118	90	10	D			ben	33.3	NL(Na)	ABS118-90-10-D--ben33.3-NL(Na)											
87-01	p4:14	ABS118	90	10	D			ben	133	NL(Na)	ABS118-90-10-D--ben133-NL(Na)											
88-02	p57	ABS118	90	1100	A	mgn	33	ben	133	NL(Na)	ABS118-90-1100-A-mgn33-ben133-NL(Na)											
87-01	p4:22	ABS118	90	10	A	mgn	0.04			NL(Na)	ABS118-90-10-A-mgn0.04--NL(Na)				8		7	9			12	13
87-01	p4:22	ABS118	90	10	A	mgn	0.4			NL(Na)	ABS118-90-10-A-mgn0.4--NL(Na)		5		8		8	10			11	14
87-01	p4:23	ABS118	90	10	A	mgn*	4			NL(Na)	ABS118-90-10-A-mgn*4--NL(Na)				5		7	14				
87-01	p4:22	ABS118	90	10	A	mgn	4			NL(Na)	ABS118-90-10-A-mgn4--NL(Na)		4		13		11	17			33	40

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:23	ABS118	90	10	A	mgn*	40			NL(Na)	ABS118-90-10-A-mgn*40--NL(Na)				16		19	27				
87-01	p4:22	ABS118	90	10	A	mgn	40			NL(Na)	ABS118-90-10-A-mgn40--NL(Na)		5		31		67	82			101	114
88-02	p55	ABS118	90	1320	A	mgn	40			NL(Na)	ABS118-90-1320-A-mgn40--NL(Na)				0.92		1.34	1.23	2.42			
88-02	p56	ABS118	90	1050	A	mgn	320			NL(Na)	ABS118-90-1050-A-mgn320--NL(Na)				1.52	1.73						
87-01	p4:11	ABS118	90	10	A(pH2.5)					NL(Na)	ABS118-90-10-A(pH2.5)---NL(Na)			64	86							
87-01	p4:11	ABS118	90	10	A(pH5.6)					NL(Na)	ABS118-90-10-A(pH5.6)---NL(Na)			4.30	7.80							
87-01	p4:11	ABS118	90	10	A(pH6.1)					NL(Na)	ABS118-90-10-A(pH6.1)---NL(Na)			2.80	5.40							
87-01	p4:11	ABS118	90	10	A(pH8.2)					NL(Na)	ABS118-90-10-A(pH8.2)---NL(Na)			5.70	8.60							
87-01	p4:11	ABS118	90	10	A(pH9 unbf.)					NL(Na)	ABS118-90-10-A(pH9 unbf.)----NL(Na)			6.90	9.50							

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:23	ABS118	90	10	A	feoh	40			NL(Na)	ABS118-90-10-A-feoh40--NL(Na)				18		58	99			228	286
84-01/84-02	p43/p47	ABS118	90	10	A					NL(Na)	ABS118-90-10-A---NL(Na)											
84-02	p47	ABS118	90	10	A					NL(Na)	ABS118-90-10-A---NL(Na)											
88-02	p38/p39	ABS118	90	10	A					NL(Na)	ABS118-90-10-A---NL(Na)		6.10		9.50		10					
88-02	p38/p39	ABS118	90	50	A					NL(Na)	ABS118-90-50-A---NL(Na)						9.20	10				
88-02	p38/p39	ABS118	90	150	A					NL(Na)	ABS118-90-150-A---NL(Na)				1.48		1.58	1.61	2.06			
88-02	p39	ABS118	90	260	A					NL(Na)	ABS118-90-260-A---NL(Na)						3.20	2.50				
88-02	p39	ABS118	90	1100	A					NL(Na)	ABS118-90-1100-A---NL(Na)				0.55		0.92	0.75			1.15	
88-02	p38	ABS118	70	1100	A					NL(Na)	ABS118-70-1100-A---NL(Na)				0.86		0.97	0.93			1	
88-02	p38	ABS118	50	1100	A					NL(Na)	ABS118-50-1100-A---NL(Na)				0.27		0.71	0.77			0.84	

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:6	ABS118	40	260	A					NL(Na)	ABS118-40-260-A---NL(Na)		0.59		0.32		0.24	0.18			0.25	
87-01	p4:6	ABS118	70	50	A					NL(Na)	ABS118-70-50-A---NL(Na)		0.89		2.50		5.30	11			11.50	
87-01	p4:6	ABS118	90	260	A					NL(Na)	ABS118-90-260-A---NL(Na)		0.71		2.70		3.20	2.50				
87-01	p4:6	ABS118	90	50	A					NL(Na)	ABS118-90-50-A---NL(Na)		2.10		3.30		9.20	10.40				
87-01	p4:6	ABS118	90	10	A					NL(Na)	ABS118-90-10-A---NL(Na)		6.10		9.50		10					
87-01	p4:6	ABS118	110	10	A					NL(Na)	ABS118-110-10-A---NL(Na)	8	9.60		16		21	20			24	
87-01	p4:12	JSSA	90	10	A			ben	2000	NL(Na)	JSSA-90-10-A--ben2000-NL(Na)											
87-01	p4:14	JSSA	90	10	D			ben	133	NL(Na)	JSSA-90-10-D--ben133-NL(Na)											
88-02	p57	JSSA	90	10	A	mgn	33	ben	133	NL(Na)	JSSA-90-10-A-mgn33-ben133-NL(Na)											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p57	JSSA	90	1100	A	mgn	33	ben	133	NL(Na)	JSSA-90-1100-A-mgn33-ben133-NL(Na)											
87-01	p4:22	JSSA	90	10	A	mgn	40			NL(Na)	JSSA-90-10-A-mgn40--NL(Na)				11			75				
84-01/88-02	p43/p40	JSSA	90	10	A					NL(Na)	JSSA-90-10-A---NL(Na)	4.20	6.20	7.50	10		13	19			45	
	p43	JSSA	90	10	C					NL(Na)	JSSA-90-10-C---NL(Na)				10		17	50				
88-02	p40	JSSA	90	1100	A					NL(Na)	JSSA-90-1100-A---NL(Na)						1.46	1.46			1.63	
88-02	p40	JSSA	90	4000	A					NL(Na)	JSSA-90-4000-A---NL(Na)						0.63					
87-01	p4:23	SON68	90	10	A	mgn	40			NL(Na)	SON68-90-10-A-mgn40--NL(Na)		4		16		58	75			90	94
GLASS_new .xls	#6	SON68	90	1200	A					NL(Na)	SON68-90-1200-A---NL(Na)											
GLASS_new .xls	#7	SON68	90	1200	A					NL(Na)	SON68-90-1200-A---NL(Na)											
GLASS_new .xls	#8	SON68	90	1200	A					NL(Na)	SON68-90-1200-A---NL(Na)											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
GLASS_new .xls	#9	SON68	90	1200	A					NL(Na)	SON68-90-1200-A---NL(Na)											
GLASS_new .xls	#10	SON68	90	1200	A					NL(Na)	SON68-90-1200-A---NL(Na)											
87-01	p4:24	SON68	90	10	A(pH9)	mgn	40			NL(Na)	SON68-90-10-A(pH9)-mgn40--NL(Na)		9		16		21	32				
87-01	p4:24	SON68	90	10	A(pH9)	mgn	4			NL(Na)	SON68-90-10-A(pH9)-mgn4--NL(Na)		1		11		7	3				
87-01	p4:24	SON68	90	10	A(pH9)	feoh	40			NL(Na)	SON68-90-10-A(pH9)-feoh40--NL(Na)		9		28		79	148				
87-01	p4:24	SON68	90	10	A(pH9)	feoh	4			NL(Na)	SON68-90-10-A(pH9)-feoh4--NL(Na)				1			1				
88-02	p65	MW	110	10	A					NL(Na)	MW-110-10-A---NL(Na)		31		64.40							
88-02	p65	MW	110	10	A					NL(Na)	MW-110-10-A---NL(Na)		27.49		56.10							
88-02	p64	MW	90	10	A					NL(Na)	MW-90-10-A---NL(Na)		8.76		31.25		81.15	82.65				
88-02	p64	MW	90	10	A					NL(Na)	MW-90-10-A---NL(Na)		5.66		27.49		63.66					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p63	MW	70	10	A					NL(Na)	MW-70-10-A--NL(Na)				5.79		3.57					
88-02	p63	MW	70	10	A					NL(Na)	MW-70-10-A--NL(Na)				6.86							
88-02	p67	MW	110	1320	A					NL(Na)	MW-110-1320-A---NL(Na)		6.04		6							
88-02	p66	MW	90	1320	A					NL(Na)	MW-90-1320-A---NL(Na)		3.70		5.45		6.68	6.38				
88-02	p66	MW	90	1320	A					NL(Na)	MW-90-1320-A---NL(Na)		3.14		5.06	4.95	5.32					
88-02	p65	MW	70	1320	A					NL(Na)	MW-70-1320-A---NL(Na)				2.81		2.83					
87-01	p4:19	ABS118	90	10	D			ben	1.67	WL	ABS118-90-10-D--ben1.67-WL		13		24		30	31				
87-01	p4:19	ABS118	90	10	D			ben	6.67	WL	ABS118-90-10-D--ben6.67-WL		10		30		32	37				
87-01	p4:19	ABS118	90	10	D			ben	33.3	WL	ABS118-90-10-D--ben33.3-WL		7.10		16		28	30				
87-01	p4:19	ABS118	90	10	D			ben	133	WL	ABS118-90-10-D--ben133-WL		3.60		5.30		7.40	9.50				
JSS Report Nr.	**page or**	**glass**	**Temp**	**S/A**	**solution**	**material**	**m/w**	**material**	**m/w**	**quantity**	**exp. code**	**3**	**7**	**14**	**28**	**56**	**91**	**182**	**330**	**334**	**365**	**547**

	Table		**(0C)**	**(m-1)**		**1**	**(g/L)**	**2**	**(g/L)**		**#**										
88-02	p4:19	ABS118	90	1100	A	mgn	33	ben	133	WL	ABS118-90-1100-A-mgn33-ben133-WL										
87-01	p4:19	ABS118	90	10	A	mgn	0.04			WL	ABS118-90-10-A-mgn0.04--WL				5.50		5	7			9	10
87-01	p4:19	ABS118	90	10	A	mgn	0.4			WL	ABS118-90-10-A-mgn0.4--WL		4.50		5		6.50	7.50			8	11
87-01	p4:19	ABS118	90	10	A	mgn*	4			WL	ABS118-90-10-A-mgn*4--WL				4		6.50	7				
87-01	p4:19	ABS118	90	10	A	mgn	4			WL	ABS118-90-10-A-mgn4--WL		4.50		11.50		12	13.50				20
87-01	p4:19	ABS118	90	10	A	mgn*	40			WL	ABS118-90-10-A-mgn*40--WL				7		9.50	11				
87-01	p4:19	ABS118	90	10	A	mgn	40			WL	ABS118-90-10-A-mgn40--WL		3.50		26.75		54.50	63.50			86	194
88-02	p55	ABS118	90	1320	A	mgn	40			WL	ABS118-90-1320-A-mgn40--WL										
88-02	p55	ABS118	90	1050	A	mgn	320			WL	ABS118-90-1050-A-mgn320--WL										

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p56	ABS118	90	10	A(pH2.5)					WL	ABS118-90-10-A(pH2.5)---WL			2.60	2.40							
87-01	p57	ABS118	90	10	A(pH5.6)					WL	ABS118-90-10-A(pH5.6)---WL			5.75	5.55							
87-01	p58	ABS118	90	10	A(pH6.1)					WL	ABS118-90-10-A(pH6.1)---WL			6.20	6							
87-01	p59	ABS118	90	10	A(pH8.2)					WL	ABS118-90-10-A(pH8.2)---WL			8.35	7.95							
87-01	p60	ABS118	90	10	A(pH9 unbf.)					WL	ABS118-90-10-A(pH9 unbf.)---WL			9	9.20							
87-01	p4:19	ABS118	90	10	A	feoh	40			WL	ABS118-90-10-A-feoh40---WL		7.50		19.50		56	97.50			178	279
84-01/84-02	p43/p47	ABS118	90	10	A					WL	ABS118-90-10-A---WL											
84-02	p47	ABS118	90	10	A					WL	ABS118-90-10-A---WL											
88-02	p38/p39	ABS118	90	10	A					WL	ABS118-90-10-A---WL											
88-02	p38/p39	ABS118	90	50	A					WL	ABS118-90-50-A---WL											
88-02	p38/p39	ABS118	90	150	A					WL	ABS118-90-150-A---WL											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p39	ABS118	90	260	A					WL	ABS118-90-260-A---WL											
88-02		ABS118	90	1100	A					WL	ABS118-90-1100-A---WL											
88-02	p38	ABS118	70	1100	A					WL	ABS118-70-1100-A---WL											
88-02	p38	ABS118	50	1100	A					WL	ABS118-50-1100-A---WL											
87-01	p4:6	ABS118	40	260	A					WL	ABS118-40-260-A---WL		0.63		0.31		1.61	1.25			1.18	
87-01	p4:6	ABS118	70	50	A					WL	ABS118-70-50-A---WL		2.10		1.30		2.30	4.70			5.10	
87-01	p4:6	ABS118	90	260	A					WL	ABS118-90-260-A---WL		0.96		0.85		1.80	1.50				
87-01	p4:6	ABS118	90	50	A					WL	ABS118-90-50-A---WL		2		1.90		4.30	4.90				
87-01	p4:6	ABS118	90	10	A					WL	ABS118-90-10-A---WL		4.70		6.50		8.80					
87-01	p4:6	ABS118	110	10	A					WL	ABS118-110-10-A---WL	5.80	6.60		10.90		12.60	11.70			13	
87-01	p4:12	JSSA	90	10	A			ben	2000	WL	JSSA-90-10-A--ben2000-WL		22		22		39	0.40				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:14	JSSA	90	10	D			ben	133	WL	JSSA-90-10-D--ben133-WL		4.80		17		27	65				
87-01	p4:17	JSSA	90	10	A	mgn	33	ben	133	WL	JSSA-90-10-A-mgn33-ben133-WL		6.50		32		74	197				
88-02	p57	JSSA	90	1100	A	mgn	33	ben	133	WL	JSSA-90-1100-A-mgn33-ben133-WL											
87-01	p4:19	JSSA	90	10	A	mgn	40			WL	JSSA-90-10-A-mgn40--WL		7.5		9.5		21.5	37.5				
84-01/88-02	p4:19	JSSA	90	10	A					WL	JSSA-90-10-A---WL	3.4	4.6	5.8	6.9		8	10				
84-01	p4:20	JSSA	90	10	C					WL	JSSA-90-10-C---WL	2.2	2.1	3.4	6.7		7.5	12				
88-02		JSSA	90	1100	A					WL	JSSA-90-1100-A---WL											
88-02	p4:19	JSSA	90	4000	A					WL	JSSA-90-4000-A---WL											
87-01	p4:19	SON68	90	10	A	mgn	40			WL	SON68-90-10-A-mgn40--WL		3		14.5		54.5	61.5			73	81
GLASS_new.xls	#6	SON68	90	1200	A					WL	SON68-90-1200-A---WL											
GLASS_new.xls	#7	SON68	90	1200	A					WL	SON68-90-1200-A---WL											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
GLASS_new .xls	#8	SON68	90	1200	A					WL	SON68-90-1200-A---WL											
GLASS_new .xls	#9	SON68	90	1200	A					WL	SON68-90-1200-A---WL											
GLASS_new .xls	#10	SON68	90	1200	A					WL	SON68-90-1200-A---WL											
87-01	p4:19	SON68	90	10	A(pH9)	mgn	40			WL	SON68-90-10-A(pH9)-mgn40--WL		7.50		16		18	38.5				
87-01	p4:19	SON68	90	10	A(pH9)	mgn	4			WL	SON68-90-10-A(pH9)-mgn4--WL		7		10.5		10.5	16				
87-01	p4:19	SON68	90	10	A(pH9)	feoh	40			WL	SON68-90-10-A(pH9)-feoh40--WL		10		26.5		78	156.5				
87-01	p4:19	SON68	90	10	A(pH9)	feoh	4			WL	SON68-90-10-A(pH9)-feoh4--WL		10.50		23.50		45.50	54.5				
88-02	p65	MW	110	10	A					WL	MW-110-10-A---WL		14.55		23.1							
88-02	p65	MW	110	10	A					WL	MW-110-10-A---WL		15.02		21.74							
88-02	p64	MW	90	10	A					WL	MW-90-10-A---WL		6.46		16.95		32.9	38.8				
88-02	p64	MW	90	10	A					WL	MW-90-10-A---WL		9.69		13.42		25.01					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p63	MW	70	10	A					WL	MW-70-10-A---WL				6.96		1.49					
88-02	p63	MW	70	10	A					WL	MW-70-10-A---WL				4.48							
88-02	p67	MW	110	1320	A					WL	MW-110-1320-A---WL											
88-02	p66	MW	90	1320	A					WL	MW-90-1320-A---WL		1.18		0.56		2.02	2.73				
88-02	p66	MW	90	1320	A					WL	MW-90-1320-A---WL		0.99		1.36	1.39	0.75					
88-02	p65	MW	70	1320	A					WL	MW-70-1320-A---WL		1.38		1.38		4.34					
GLASS_new .xls	#1	MW	90	1200	A					WL	MW-90-1200-A---WL											
GLASS_new .xls	#2	MW	90	1200	A					WL	MW-90-1200-A---WL											
GLASS_new .xls	#3	MW	90	1200	A					WL	MW-90-1200-A---WL											
GLASS_new .xls	#4	MW	90	1200	A					WL	MW-90-1200-A---WL											
GLASS_new .xls	#5	MW	90	1200	A					WL	MW-90-1200-A---WL											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:19	ABS118	90	10	D			ben	1.67	pH	ABS118-90-10-D--ben1.67-pH		9.15		9.65		10	9.95				
87-01	p4:19	ABS118	90	10	D			ben	6.67	pH	ABS118-90-10-D--ben6.67-pH		8.65		9.30		9.65	9.65				
87-01	p4:19	ABS118	90	10	D			ben	33.3	pH	ABS118-90-10-D--ben33.3-pH		8.30		8.85		9.30	9.30				
87-01	p4:19	ABS118	90	10	D			ben	133	pH	ABS118-90-10-D--ben133-pH											
88-02	p4:19	ABS118	90	1100	A	mgn	33	ben	133	pH	ABS118-90-1100-A-mgn33-ben133-pH				8.50		8.60	8.40		8.60		
87-01	p4:19	ABS118	90	10	A	mgn	0.04			pH	ABS118-90-10-A-mgn0.04--pH				6.30		7	7.25			8.8	8.3
87-01	p4:19	ABS118	90	10	A	mgn	0.4			pH	ABS118-90-10-A-mgn0.4--pH		8.75		6.35		6.20	7.20			9.1	8.7
87-01	p4:19	ABS118	90	10	A	mgn*	4			pH	ABS118-90-10-A-mgn*4--pH				6.75		7.20	8.35				
87-01	p4:19	ABS118	90	10	A	mgn	4			pH	ABS118-90-10-A-mgn4--pH		8.2		6.4		6.3	8			9.4	9.5

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:19	ABS118	90	10	A	mgn*	40			pH	ABS118-90-10-A-mgn*40--pH				8.45		8.45	8.8				
87-01	p4:19	ABS118	90	10	A	mgn	40			pH	ABS118-90-10-A-mgn40--pH		4.9		5		4.8	4.9			6.2	5.9
88-02	p55	ABS118	90	1320	A	mgn	40			pH	ABS118-90-1320-A-mgn40--pH				9.45		9.45	9.5	9.45			
88-02	p55	ABS118	90	1050	A	mgn	320			pH	ABS118-90-1050-A-mgn320--pH				8.15	8.65						
87-01	p4:11	ABS118	90	10	A(pH2.5)					pH	ABS118-90-10-A(pH2.5)-00--pH			2.60	2.4							
87-01	p4:11	ABS118	90	10	A(pH5.6)					pH	ABS118-90-10-A(pH5.6)-00--pH			5.75	5.55							
87-01	p4:11	ABS118	90	10	A(pH6.1)					pH	ABS118-90-10-A(pH6.1)-00--pH			6.20	6							
87-01	p4:11	ABS118	90	10	A(pH8.2)					pH	ABS118-90-10-A(pH8.2)---pH			8.35	7.95							
87-01	p4:11	ABS118	90	10	A(pH9 unbf.)					pH	ABS118-90-10-A(pH9 unbf.)---pH			9	9.2							
87-01	p4:19	ABS118	90	10	A	feoh	40			pH	ABS118-90-10-A-feoh40--pH		7.3		7.7		7.65	7.95			9.3	8.8

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
84-01/84-02	p43/p47	ABS118	90	10	A					pH	ABS118-90-10-A---pH				8							
84-02	p47	ABS118	90	10	A					pH	ABS118-90-10-A---pH				9.1							
88-02	p38/p39	ABS118	90	10	A					pH	ABS118-90-10-A---pH		9.40		9.2		9					
88-02	p38/p39	ABS118	90	50	A					pH	ABS118-90-50-A---pH						9.1	9				
88-02	p38/p39	ABS118	90	150	A					pH	ABS118-90-150-A---pH				8.9		8.9	8.6	8.8		8.8	
88-02	p39	ABS118	90	260	A					pH	ABS118-90-260-A---pH						8.9	8.7				
88-02	p39	ABS118	90	1100	A					pH	ABS118-90-1100-A---pH				9.2		9.2	8.8			8.8	
88-02	p38	ABS118	70	1100	A					pH	ABS118-70-1100-A---pH				9.4		9.3	9.1			9	
88-02	p38	ABS118	50	1100	A					pH	ABS118-50-1100-A---pH				9		9.1	9.3			9.3	
87-01	p4:6	ABS118	40	260	A					pH	ABS118-40-260-A---pH		7.2		7.5		7.3	6.9			7.3	
87-01	p4:6	ABS118	70	50	A					pH	ABS118-70-50-A---pH		8.2		8.1		8.8	8.8			9	
87-01	p4:6	ABS118	90	260	A					pH	ABS118-90-260-A---pH				8.9		8.9	8.7				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:6	ABS118	90	50	A					pH	ABS118-90-50-A---pH				7		9.1	9				
87-01	p4:6	ABS118	90	10	A					pH	ABS118-90-10-A---pH		9.4		9.2		9					
87-01	p4:6	ABS118	110	10	A					pH	ABS118-110-10-A---pH		9.3		8.6		8.8				8.5	
87-01	p4:12	JSSA	90	10	A			ben	2000	pH	JSSA-90-10-A--ben2000-pH											
87-01	AppS3,p22	JSSA	90	10	D			ben	133	pH	JSSA-90-10-D--ben133-pH		8.4		8.3		8	7.9				
88-02	p57	JSSA	90	10	A	mgn	33	ben	133	pH	JSSA-90-10-A-mgn33-ben133-pH		7		7.2		7.2	7.6				
88-02	p57	JSSA	90	1100	A	mgn	33	ben	133	pH	JSSA-90-1100-A-mgn33-ben133-pH						8.3	8.2			8.4	
87-01	p4:19	JSSA	90	10	A	mgn	40			pH	JSSA-90-10-A-mgn40--pH		5.25		4.90		6.55	8.45				
84-01/88-02	p4:19/p40	JSSA	90	10	A					pH	JSSA-90-10-A---pH	8.4	8.6	9.2	8.9		9	8.6			8.9	
84-01	p4:20	JSSA	90	10	C					pH	JSSA-90-10-C---pH	8.4	8.8	8.7	8.3		9.2	9				
88-02	p40	JSSA	90	1100	A					pH	JSSA-90-1100-A---pH						9.7	10			10	

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p40	JSSA	90	4000	A					pH	JSSA-90-4000-A---pH						9.9					
87-01	p4:19	SON68	90	10	A	mgn	40			pH	SON68-90-10-A-mgn40--pH		5		4.8		4.75	5.2			6.8	7.1
GLASS_new.xls		SON68	90	1200	A					pH	SON68-90-1200-A---pH		9.6	9.6	9.6		9.6	9.6			9.6	9.6
GLASS_new.xls		SON68	90	1200	A					pH	SON68-90-1200-A---pH		9.6	9.6	9.6		9.6	9.6			9.6	9.6
GLASS_new.xls		SON68	90	1200	A					pH	SON68-90-1200-A---pH		9.6	9.6	9.6		9.6	9.6			9.6	9.6
GLASS_new.xls		SON68	90	1200	A					pH	SON68-90-1200-A---pH		9.6	9.6	9.6		9.6	9.6			9.6	9.6
GLASS_new.xls		SON68	90	1200	A					pH	SON68-90-1200-A---pH		9.6	9.6	9.6		9.6	9.6			9.6	9.6
87-01	p4:19	SON68	90	10	A(pH9)	mgn	40			pH	SON68-90-10-A(pH9)-mgn40--pH		9.1		8.95		9.3	9.05				
87-01	p4:19	SON68	90	10	A(pH9)	mgn	4			pH	SON68-90-10-A(pH9)-mgn4--pH		9.1		9.1		9.7	9.3				
87-01	p4:19	SON68	90	10	A(pH9)	feoh	40			pH	SON68-90-10-A(pH9)-feoh40--pH		8.6		8.3		8.95	8.45				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:19	SON68	90	10	A(pH9)	feoh	4			pH	SON68-90-10-A(pH9)-feoh4--pH		9.1		9.05		9.5	9.2				
88-02	p65	MW	110	10	A					pH	MW-110-10-A---pH		9.25		9.2							
88-02	p65	MW	110	10	A					pH	MW-110-10-A---pH		9.5		9.5							
88-02	p64	MW	90	10	A					pH	MW-90-10-A--pH		9.5		9.35		9.4	8.85				
88-02	p64	MW	90	10	A					pH	MW-90-10-A--pH		9.05		9.35		9.55					
88-02	p63	MW	70	10	A					pH	MW-70-10-A--pH				8.8		8.05					
88-02	p63	MW	70	10	A					pH	MW-70-10-A--pH				9.0							
88-02	p67	MW	110	1320	A					pH	MW-110-1320-A---pH		9.4		9.35							
88-02	p66	MW	90	1320	A					pH	MW-90-1320-A---pH		9.65		9.4		8.95	8.9				
88-02	p66	MW	90	1320	A					pH	MW-90-1320-A---pH		9.8		9.7	9.8	9.7					
88-02	p65	MW	70	1320	A					pH	MW-70-1320-A---pH				8.95		9.45					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
GLASS_new .xls	#1	MW	90	1200	A					pH	MW-90-1200-A---pH				9.6		9.6				9.6	9.6
GLASS_new .xls	#2	MW	90	1200	A					pH	MW-90-1200-A---pH				9.6		9.60				9.6	9.6
GLASS_new .xls	#3	MW	90	1200	A					pH	MW-90-1200-A---pH				9.6		9.6				9.6	9.6
GLASS_new .xls	#4	MW	90	1200	A					pH	MW-90-1200-A---pH				9.6		9.6				9.6	9.6
GLASS_new .xls	#5	MW	90	1200	A					pH	MW-90-1200-A---pH				9.6		9.6				9.6	9.6
87-01	p4:14	ABS118	90	10	D			ben	1.67	NL(Si)	ABS118-90-10-D--ben1.67-NL(Si)											
87-01	p4:14	ABS118	90	10	D			ben	6.67	NL(Si)	ABS118-90-10-D--ben6.67-NL(Si)											
87-01	p4:14	ABS118	90	10	D			ben	33.3	NL(Si)	ABS118-90-10-D--ben33.3-NL(Si)											
87-01	p4:14	ABS118	90	10	D			ben	133	NL(Si)	ABS118-90-10-D--ben133-NL(Si)											

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p57	ABS118	90	1100	A	mgn	33	ben	133	NL(Si)	ABS118-90-1100-A-mgn33-ben133-NL(Si)				0.18		0.20	0.18		0.17		
87-01	p4:25	ABS118	90	10	A	mgn	0.04			NL(Si)	ABS118-90-10-A-mgn0.04--NL(Si)				4		5.41	7.53			13.17	12.23
87-01	p4:25	ABS118	90	10	A	mgn	0.4			NL(Si)	ABS118-90-10-A-mgn0.4--NL(Si)		4.23		4.47		5.41	7.76			11.76	12.23
87-01	p4:25	ABS118	90	10	A	mgn*	4			NL(Si)	ABS118-90-10-A-mgn*4--NL(Si)		5.64		9.41		12.94	11.99				
87-01	p4:25	ABS118	90	10	A	mgn	4			NL(Si)	ABS118-90-10-A-mgn4--NL(Si)		3.06		8.23		8.23	11.76			20.23	12.23
87-01	p4:25	ABS118	90	10	A	mgn*	40			NL(Si)	ABS118-90-10-A-mgn*40--NL(Si)		2.59		7.06		12.70	14.82				
87-01	p4:25	ABS118	90	10	A	mgn	40			NL(Si)	ABS118-90-10-A-mgn40--NL(Si)		1.41		23.75		29.87	25.17			35.75	32.46
88-02	p55	ABS118	90	1320	A	mgn	40			NL(Si)	ABS118-90-1320-A-mgn40--NL(Si)				0.23		0.22	0.23	0.29			
88-02	p56	ABS118	90	1050	A	mgn	320			NL(Si)	ABS118-90-1050-A-mgn320--NL(Si)				0.04	0.04						

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:11	ABS118	90	10	A(pH2.5)					NL(Si)	ABS118-90-10-A(pH2.5)---NL(Si)			55	64							
87-01	p4:11	ABS118	90	10	A(pH5.6)					NL(Si)	ABS118-90-10-A(pH5.6)---NL(Si)			0.45	0.45							
87-01	p4:11	ABS118	90	10	A(pH6.1)					NL(Si)	ABS118-90-10-A(pH6.1)---NL(Si)			0.6	0.7							
87-01	p4:11	ABS118	90	10	A(pH8.2)					NL(Si)	ABS118-90-10-A(pH8.2)---NL(Si)			4	8.3							
87-01	p4:11	ABS118	90	10	A(pH9 unbf.)					NL(Si)	ABS118-90-10-A(pH9 unbf.)---NL(Si)			6.6	7.6							
87-01	p4:23	ABS118	90	10	A	feoh	40			NL(Si)	ABS118-90-10-A-feoh40--NL(Si)		1.41		26.81		0.24					1.41
84-01/84-02	p43/p47	ABS118	90	10	A				STU	NL(Si)	ABS118-90-10-A--STU-NL(Si)				6.1							
84-02	p47	ABS118	90	10	A				EIR	NL(Si)	ABS118-90-10-A--EIR-NL(Si)				6.31							
88-02	p38/p39	ABS118	90	10	A					NL(Si)	ABS118-90-10-A---NL(Si)		5		7.6		8					
88-02	p38/p39	ABS118	90	50	A					NL(Si)	ABS118-90-50-A---NL(Si)						4.2	4.1				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p38/p39	ABS118	90	150	A					NL(Si)	ABS118-90-150-A---NL(Si)				0.84		0.83	0.91	1.06			
88-02	p39	ABS118	90	260	A					NL(Si)	ABS118-90-260-A---NL(Si)						0.95	0.84				
88-02	p39	ABS118	90	1100	A					NL(Si)	ABS118-90-1100-A---NL(Si)				0.2		0.26	0.23			0.3	
88-02	p38	ABS118	70	1100	A					NL(Si)	ABS118-70-1100-A---NL(Si)				0.24		0.25	0.23			0.25	
88-02	p38	ABS118	50	1100	A					NL(Si)	ABS118-50-1100-A---NL(Si)				0.11		0.16	0.17			0.18	
87-01	p4:6	ABS118	40	260	A					NL(Si)	ABS118-40-260-A---NL(Si)		0.84		0.34		0.06	0.27			0.38	
87-01	p4:6	ABS118	70	50	A					NL(Si)	ABS118-70-50-A---NL(Si)		0.75		2.1		2.7	4			4.8	
87-01	p4:6	ABS118	90	260	A					NL(Si)	ABS118-90-260-A---NL(Si)		0.78		1.25		0.95	0.84				
87-01	p4:6	ABS118	90	50	A					NL(Si)	ABS118-90-50-A---NL(Si)		1.45		2		4.2	4.1				
87-01	p4:6	ABS118	90	10	A					NL(Si)	ABS118-90-10-A---NL(Si)		5		7.6		8					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:6	ABS118	110	10	A					NL(Si)	ABS118-110-10-A---NL(Si)	6.1	7.5		11.5		13.5	13.5			18	
87-01	p4:12	JSSA	90	10	A			ben	2000	NL(Si)	JSSA-90-10-A--ben2000-NL(Si)											
87-01	p4:14	JSSA	90	10	D			ben	133	NL(Si)	JSSA-90-10-D--ben133-NL(Si)											
88-02	p57	JSSA	90	10	A	mgn	33	ben	133	NL(Si)	JSSA-90-10-A-mgn33-ben133-NL(Si)		3.13		4.41		12.80	9.25				
88-02	p57	JSSA	90	1100	A	mgn	33	ben	133	NL(Si)	JSSA-90-1100-A-mgn33-ben133-NL(Si)						0.21	0.18			0.18	
87-01	p4:25	JSSA	90	10	A	mgn	40			NL(Si)	JSSA-90-10-A-mgn40--NL(Si)		2.37		3.79		13.28	22.28				
84-01/88-02	p43/p40	JSSA	90	10	A					NL(Si)	JSSA-90-10-A---NL(Si)	3.6	4.3	7.3	8.8		10	14			21	
84-01	p43	JSSA	90	10	C					NL(Si)	JSSA-90-10-C---NL(Si)		1	4.6	6.8		9.8	14.4				
88-02	p40	JSSA	90	1100	A					NL(Si)	JSSA-90-1100-A---NL(Si)						0.34	0.42			0.36	
88-02	p40	JSSA	90	4000	A					NL(Si)	JSSA-90-4000-A---NL(Si)						0.11					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:23	SON68	90	10	A	mgn	40			NL(Si)	SON68-90-10-A-mgn40--NL(Si)		0.47		11.05		28.69	27.99				
GLASS_new.xls	#6	SON68	90	1200	A					NL(Si)	SON68-90-1200-A---NL(Si)				0.349		0.376				0.405	0.343
GLASS_new.xls	#7	SON68	90	1200	A					NL(Si)	SON68-90-1200-A---NL(Si)				0.342		0.370				0.398	0.335
GLASS_new.xls	#8	SON68	90	1200	A					NL(Si)	SON68-90-1200-A---NL(Si)				0.344		0.377				0.402	0.341
GLASS_new.xls	#9	SON68	90	1200	A					NL(Si)	SON68-90-1200-A---NL(Si)				0.338		0.364				0.397	0.339
GLASS_new.xls	#10	SON68	90	1200	A					NL(Si)	SON68-90-1200-A---NL(Si)				0.338		0.365				0.394	0.333
87-01	p4:25	SON68	90	10	A(pH9)	mgn	40			NL(Si)	SON68-90-10-A(pH9)-mgn40--NL(Si)		2.59		7.06		12.70	14.82				
87-01	p4:25	SON68	90	10	A(pH9)	mgn	4			NL(Si)	SON68-90-10-A(pH9)-mgn4--NL(Si)		5.64		9.41		12.94	11.99				
87-01	p4:25	SON68	90	10	A(pH9)	feoh	40			NL(Si)	SON68-90-10-A(pH9)-feoh40--NL(Si)		0.47		0.47		1.88	1.88				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:25	SON68	90	10	A(pH9)	feoh	4			NL(Si)	SON68-90-10-A(pH9)-feoh4--NL(Si)		0.94		1.65		5.17	6.59				
88-02	p65	MW	110	10	A				EIR	NL(Si)	MW-110-10-A--EIR-NL(Si)		18.5		22.25							
88-02	p65	MW	110	10	A				BNFL	NL(Si)	MW-110-10-A--BNFL-NL(Si)		15.82		19.9							
88-02	p64	MW	90	10	A				EIR	NL(Si)	MW-90-10-A--EIR-NL(Si)		6.6		16.1		26.45	25.9				
88-02	p64	MW	90	10	A				BNFL	NL(Si)	MW-90-10-A--BNFL-NL(Si)		4.925		16.135		21.9					
88-02	p63	MW	70	10	A				EIR	NL(Si)	MW-70-10-A--EIR-NL(Si)				4.915		2.01					
88-02	p63	MW	70	10	A				BNFL	NL(Si)	MW-70-10-A--BNFL-NL(Si)				5.255							
88-02	p67	MW	110	1320	A					NL(Si)	MW-110-1320-A---NL(Si)		0.545		0.485							
88-02	p66	MW	90	1320	A				EIR	NL(Si)	MW-90-1320-A--EIR-NL(Si)		0.37		0.37		0.38	0.37				
88-02	p66	MW	90	1320	A				BNFL	NL(Si)	MW-90-1320-A--BNFL-NL(Si)		0.45		0.5	0.435	0.45					
88-02	p65	MW	70	1320	A					NL(Si)	MW-70-1320-A---NL(Si)				0.375		0.205					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
GLASS_new .xls	#1	MW	90	1200	A					NL(Si)	MW-90-1200-A---NL(Si)				0.61		0.54				0.61	0.49
GLASS_new .xls	#2	MW	90	1200	A					NL(Si)	MW-90-1200-A---NL(Si)				0.60		0.55				0.61	0.51
GLASS_new .xls	#3	MW	90	1200	A					NL(Si)	MW-90-1200-A---NL(Si)				0.57		0.54				0.60	0.49
GLASS_new .xls	#4	MW	90	1200	A					NL(Si)	MW-90-1200-A---NL(Si)				0.34		0.55				0.61	0.51
GLASS_new .xls	#5	MW	90	1200	A					NL(Si)	MW-90-1200-A---NL(Si)				0.60		0.55				0.61	0.49
87-01	p4:23	ABS118	90	10	A	feoh	40			C(Si)	ABS118-90-10-A-feoh40--C(Si)		1.07E-04		2.03E-03		1.78E-05					1.07E-04
84-01/84-02	p43/p47	ABS118	90	10	A				STU	C(Si)	ABS118-90-10-A--STU-C(Si)				4.62E-04							
84-02	p47	ABS118	90	10	A				EIR	C(Si)	ABS118-90-10-A--EIR-C(Si)				4.78E-04							
88-02	p38/p39	ABS118	90	10	A					C(Si)	ABS118-90-10-A---C(Si)		3.78E-04		5.75E-04		6.06E-04					
88-02	p38/p39	ABS118	90	50	A					C(Si)	ABS118-90-50-A---C(Si)						1.59E-03	1.46E-04				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p38/p39	ABS118	90	150	A					C(Si)	ABS118-90-150-A---C(Si)				9.54E-04		9.42E-04	1.03E-03	1.20E-03			
88-02	p39	ABS118	90	260	A					C(Si)	ABS118-90-260-A---C(Si)						1.87E-03	1.65E-03				
88-02	p39	ABS118	90	1100	A					C(Si)	ABS118-90-1100-A---C(Si)				1.67E-03		2.16E-03	1.92E-03			2.50E-03	
88-02	p38	ABS118	70	1100	A					C(Si)	ABS118-70-1100-A---C(Si)				2E-03		2.08E-03	1.92E-03			2.08E-03	
88-02	p38	ABS118	50	1100	A					C(Si)	ABS118-50-1100-A---C(Si)				9.16E-04		1.33E-03	1.42E-03			1.50E-03	
87-01	p4:6	ABS118	40	260	A					C(Si)	ABS118-40-260-A---C(Si)		1.65E-03		6.69E-04		1.18E-04	5.31E-04			7.48E-04	
87-01	p4:6	ABS118	70	50	A					C(Si)	ABS118-70-50-A---C(Si)		2.84E-04		7.95E-04		1.02E-03	1.51E-03			1.71E-04	
87-01	p4:6	ABS118	90	260	A					C(Si)	ABS118-90-260-A---C(Si)		1.54E-03		2.46E-03		1.87E-03	1.65E-03				
87-01	p4:6	ABS118	90	50	A					C(Si)	ABS118-90-50-A---C(Si)		5.49E-04		7.57E-04		1.59E-03	1.55E-03				
87-01	p4:6	ABS118	90	10	A					C(Si)	ABS118-90-10-A---C(Si)		3.78E-04		5.75E-04		6.06E-04					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:6	ABS118	110	10	A					C(Si)	ABS118-110-10-A---C(Si)	4.62E-04	5.68E-04		8.70E-04		1.02E-03	1.02E-03			1.36E-03	
87-01	p4:12	JSSA	90	10	A			ben	2000	C(Si)	JSSA-90-10-A--ben2000-C(Si)											
87-01	p4:14	JSSA	90	10	D			ben	133	C(Si)	JSSA-90-10-D--ben133-C(Si)											
88-02	p57	JSSA	90	10	A	mgn	33	ben	133	C(Si)	JSSA-90-10-A-mgn33-ben133-C(Si)		2.35E-04		3.31E-04		9.61E-04	6.94E-04				
88-02	p57	JSSA	90	1100	A	mgn	33	ben	133	C(Si)	JSSA-90-1100-A-mgn33-ben133-C(Si)						1.71E-03	1.50E-03			1.50E-03	
87-01	p4:25	JSSA	90	10	A	mgn	40			C(Si)	JSSA-90-10-A-mgn40--C(Si)		1.78E-04		2.85E-04		9.97E-04	1.67E-03				
84-01/88-02	p43/p40	JSSA	90	10	A					C(Si)	JSSA-90-10-A---C(Si)	2.70E-04	3.23E-04	5.48E-04	6.61E-04		7.51E-04	1.05E-03			1.58E-03	
84-01	p43	JSSA	90	10	C					C(Si)	JSSA-90-10-C---C(Si)		7.51E-05	3.45E-04	5.11E-04		7.36E-04	1.08E-03				
88-02	p40	JSSA	90	1100	A					C(Si)	JSSA-90-1100-A---C(Si)						2.81E-03	3.47E-03			2.97E-03	
88-02	p40	JSSA	90	4000	A					C(Si)	JSSA-90-4000-A---C(Si)						3.30E-03					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
87-01	p4:23	SON68	90	10	A	mgn	40			C(Si)	SON68-90-10-A-mgn40--C(Si)		3.56E-05		8.37E-04		2.17E-03	2.12E-03				
GLASS_new.xls	#6	SON68	90	1200	A					C(Si)	SON68-90-1200-A---C(Si)				3.17E-03		3.43E-03				3.70E-03	3.10E-03
GLASS_new.xls	#7	SON68	90	1200	A					C(Si)	SON68-90-1200-A---C(Si)				3.11E-03		3.37E-03				3.63E-03	3.03E-03
GLASS_new.xls	#8	SON68	90	1200	A					C(Si)	SON68-90-1200-A---C(Si)				3.13E-03		3.43E-03				3.67E-03	3.08E-03
GLASS_new.xls	#9	SON68	90	1200	A					C(Si)	SON68-90-1200-A---C(Si)				3.07E-03		3.32E-03				3.63E-03	3.08E-03
GLASS_new.xls	#10	SON68	90	1200	A					C(Si)	SON68-90-1200-A---C(Si)				3.08E-03		3.32E-03				3.60E-03	3.02E-03
87-01	p4:25	SON68	90	10	A(pH9)	mgn	40			C(Si)	SON68-90-10-A(pH9)-mgn40--C(Si)		1.96E-04		5.34E-04		9.61E-04	1.12E-03				
87-01	p4:25	SON68	90	10	A(pH9)	mgn	4			C(Si)	SON68-90-10-A(pH9)-mgn4--C(Si)		4.27E-04		7.12E-04		9.79E-04	9.08E-04				
87-01	p4:25	SON68	90	10	A(pH9)	feoh	40			C(Si)	SON68-90-10-A(pH9)-feoh40--C(Si)		3.56E-05		3.56E-05		1.42E-04	1.42E-04				
87-01	p4:25	SON68	90	10	A(pH9)	feoh	4			C(Si)	SON68-90-10-A(pH9)-feoh4--C(Si)		7.12E-05		1.25E-04		3.92E-04	4.98E-04				

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
88-02	p65	MW	110	10	A				EIR	C(Si)	MW-110-10-A--EIR-C(Si)		1.42E-03		1.71E-03							
88-02	p65	MW	110	10	A				BNFL	C(Si)	MW-110-10-A--BNFL-C(Si)		1.22E-03		1.53E-03							
88-02	p64	MW	90	10	A				EIR	C(Si)	MW-90-10-A--EIR-C(Si)		5.07E-04		1.24E-03		2.03E-03	1.99E-03				
88-02	p64	MW	90	10	A				BNFL	C(Si)	MW-90-10-A--BNFL-C(Si)		3.79E-04		1.24E-03		1.68E-03					
88-02	p63	MW	70	10	A				EIR	C(Si)	MW-70-10-A--EIR-C(Si)				3.78E-04		1.55E-04					
88-02	p63	MW	70	10	A				BNFL	C(Si)	MW-70-10-A--BNFL-C(Si)				4.04E-04							
88-02	p67	MW	110	1320	A					C(Si)	MW-110-1320-A---C(Si)		5.53E-03		4.92E-03							
88-02	p66	MW	90	1320	A				EIR	C(Si)	MW-90-1320-A--EIR-C(Si)		3.76E-03		3.76E-03		3.86E-03	3.76E-03				
88-02	p66	MW	90	1320	A				BNFL	C(Si)	MW-90-1320-A--BNFL-C(Si)		4.57E-03		5.07E-03	4.42E-03	4.57E-03					
88-02	p65	MW	70	1320	A					C(Si)	MW-70-1320-A---C(Si)				3.81E-03		2.08E-03					

JSS Report Nr.	page or Table	glass	Temp (0C)	S/A (m-1)	solution	material 1	m/w (g/L)	material 2	m/w (g/L)	quantity	exp. code #	3	7	14	28	56	91	182	330	334	365	547
GLASS_new .xls	#1	MW	90	1200	A					C(Si)	MW-90-1200-A---C(Si)				5.66E-03		5.06E-03				5.59E-03	4.70E-03
GLASS_new .xls	#2	MW	90	1200	A					C(Si)	MW-90-1200-A---C(Si)				5.55E-03		5.13E-03				5.63E-03	4.81E-03
GLASS_new .xls	#3	MW	90	1200	A					C(Si)	MW-90-1200-A---C(Si)				5.31E-03		5.06E-03				5.48E-03	4.63E-03
GLASS_new .xls	#4	MW	90	1200	A					C(Si)	MW-90-1200-A---C(Si)				3.13E-03		4.84E-03				5.38E-03	4.52E-03
GLASS_new .xls	#5	MW	90	1200	A					C(Si)	MW-90-1200-A---C(Si)				5.55E-03		5.16E-03				5.63E-03	4.63E-03