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THIN SECTION LABEL ID:	392-U1580A-45R-1-W 130	/133-TSB-TS 11	Thin section no	o.: 11
Observer:	PD		Piece no.:	1
			Unit/subunit:	1
Thin section summary:	Sample U1580A-45R-1W 1 aphanitic and the other half groundmass. Phenocryst ps half, these are completely r	is fine grained. Only plagi seudomorphs of potentially	oclase and oxides re / olivine exist in the f	emain in the
Plane-polariz	zed:	Cross-pola	arized:	

Igneous Petrology

basalt

microcrystalline

Groundmass grain size fine-grained (avg.)

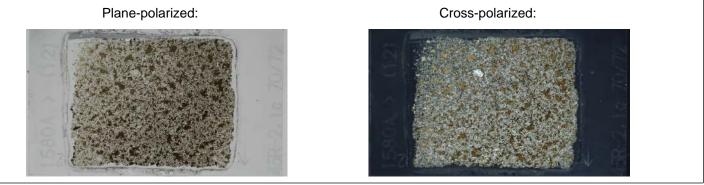
Texture 1:

Texture 2:

Lithology:

Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Olivine	5	100	1	1	subhedral		Possible olivine pseudomorphs, completely replaced
Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	Shape Con		nts
Plagioclase	42	25	0.1		euhedral- subhedral		0.2mm the other half is ~0.05mm
Opaques	8	0	0.05	subhedr	subhedral half ~0		2 and half ~0.01mm
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Vesicle	0						

THIN SECTION LABEL ID:	392-U1580A-45R-2-W 70/72-TSB-TS 12	Thin section no.:	12
Observer:	PD	Piece no.:	1
		Unit/subunit:	1
Thin section summary:	Sample U1580A-45R-2W 70/72 is a plagioclase olivi olivine has been recognized only by it's pseudomorp replaced with clay minerals. Most of the clinopyroxer minerals. One plagioclase phenocryst is present and partially altered.	ne is also replaced by cl	av



Lithology:	plagioclase-olivine phyric basalt
Groundmass grain size (avg.)	fine-grained
Texture 1:	moderately phyric
Texture 2:	holocrystalline

Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Olivine	8	100	1	1.5	euhedral- subhedral		
Plagioclase	1	20	1.5	1.5	euhedral		
Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	паре		nts
Olivine	25	100	0.25	subhedr	subhedral		
Plagioclase	50	20	0.4		euhedral- subhedral		
Clinopyroxene	20	80	0.15	0.15			
Opaques	5	0	0.1	subhedr	subhedral		
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Vesicle	0						

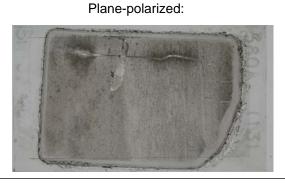
THIN SECTION LABEL ID: Unit/Subunit: Thin section summary:

392-U1580A-45R-3-W 66/69-TSB-TS 13

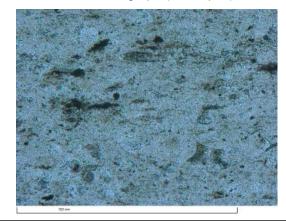
Thin section no.: 13

Observer: PD

Sample 392-U1580A-45R-3-W 66/69-TSB-TS 13 consists of large subrounded carbonate grains in a microcrystalline silica matrix. Carbonate grains show high birefringence under cross polarized light. Opaque minerals are common.

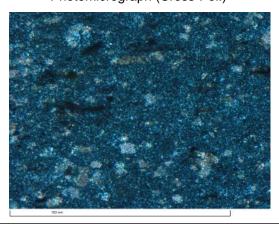


Photomicrograph (Plane-pol.)



Photomicrograph (Cross-Pol.)

Cross-polarized:



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THIN SECTION LABEL ID:	392-U1580A-47R-2-W 54	4/57-TSB-TS 14	Thin section no	o.: 14
Observer:	PD		Piece no.:	1
			Unit/subunit:	2
Thin section summary:	groundmass plagioclase groundmass phase, large	/ 54/57 is an aphyric basalt. and oxides surviving. The o er than the plagioclase. Very id everything else is unident	paque oxides are the / little clinopyroxene in	largest h the
Plane-polari	zed:	Cross-po	arized:	
Trester		Media and		
	NOT AND		STREET, MARKED ALONG BAR STREET, MARKED AND	
	State 10			

Igneous	Petrology
Lithology	

Lithology:	aphyric basalt
Groundmass grain size (avg.)	fine-grained
Texture 1:	aphyric

Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape		Comme	nts
Plagioclase	40	20	0.15		euhedral- subhedral		
Clinopyroxene	20	90	0.1	0.1	0.1		
Opaques	5	0	0.3	subhedr	subhedral		
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Vesicle	0						

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THIN SECTION LABEL ID: Observer:	392-U1580A-48R-5-W 35/37-TSB-TS 15 PD	Thin section no.: 15 Piece no.: 1 Unit/subunit: 3
Thin section summary:	Sample U1580A-48R-5W 35/37 is a plagioclas show nice zonation and are partially altered al evidence of subophitic texture but are heavily groundmass phase but is completely replaced	se-phyric basalt. Plagioclase phenocrysts ong zones. Clinopyroxenes show altered. Olivine was likely also a by clay minerals.
Plane-polariz	red: Cro	oss-polarized:

Lithology: aphyric basalt

Groundmass grain size (avg.) fine-grained

sparsely phyric

Texture 1:

Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Plagioclase	1	20	1.5	1.5	euhedral		
Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	hape C		nts
Olivine	15	100	0.3	subhedr	subhedral		
Plagioclase	45	10	0.25		euhedral- subhedral		
Clinopyroxene	35	75	0.2	0.2	0.2		
Opaques	5	0	0.1	subhedr	subhedral		
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	. Shape		Comments
Vesicle	0						

THIN SECTION LABEL ID:	392-U1580A-48R-5-W 35/37	-TSB-TS 24	Thin section no.:	24
Observer:	PD		Piece no.:	1
			Unit/subunit:	3
Thin section summary:	Sample U1580A-48R-5W 35 show evidence of subophitic is partially altered. Olivine wa replaced by clay minerals.	texture but are heavily alter	ed. Groundmass pla	agioclase
Plane-polari:	zed:	Cross-polariz	red:	

Igneous Petrology									
Lithology:		ā	aphyric basalt						
Groundmass (avg.)	grain size	e f	fine-grained						
Texture 1:		9	uboph	itic					
Texture 2:									
Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape		Comme	nts		
Olivine	15	100	0.3	subhedr	ral				
Plagioclase	45	10	0.25	euhedra subhedr					
Clinopyroxene	35	75	0.2	0.2					
Opaques	5	0	0.1	subhedr	subhedral				
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape		Comments		
Vesicle	0								

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THIN SECTION LABEL ID: Observer:	392-U1580A-48R-5-W 35/37-TSB-TS 25 PD	Thin section no.: 25 Piece no.: 1 Unit/subunit: 3
Thin section summary:	Sample U1580A-48R-5W 35/37 is a plagio show nice zonation and are partially altered evidence of subophitic texture but are heav groundmass phase but is completely replace	clase-phyric basalt. Plagioclase phenocrysts d along zones. Clinopyroxenes show /ily altered. Olivine was likely also a ced by clay minerals.
Plane-polariz	zed:	Cross-polarized:

Lithology:	plagioclase phyric basalt
Groundmass grain size (avg.)	fine-grained
Texture 1:	moderately phyric
Texture 2:	

Size Size Original (%) Replaced (%) Phenocrysts max. (mm) Shape Comments mode (mm) Plagioclase 8 20 3 4 euhedral Size Replaced (%) Original (%) Groundmass mode (mm) Shape Comments Olivine 15 100 0.3 subhedral euhedral-subhedral Plagioclase 45 10 0.25 Clinopyroxene 75 0.2 35 0.2 5 Opaques 0 0.1 subhedral Original (%) Size max. (mm) Size mode (mm) Comments Vesicle Filled (%) Shape 0 Vesicle

THIN SECTION LABEL ID:	392-U1580A-50R-1-W 12/15-TSB-TS 16	Thin section no.	: 16
Observer:	PD	Piece no.:	2
		Unit/subunit:	5
Thin section summary:	Sample U1580A-50R-1W 12/15 is a plag glomerocrysts up to 2mm are fresh but th The altered olivine phenocrysts show nic minerals. The groundmass is composed either altered olivine or altered interstitial	e olivine phenocrysts are complete e pseudomorphs and are replaced of plagioclase, clinopyroxene, oxid	tely altered.
Plane-polariz	ed:	Cross-polarized:	_
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Lithology:	plagioclase-olivine phyric basalt
Groundmass grain size (avg.)	medium-grained
Texture 1:	moderately phyric
Texture 2:	glomeroporphyritic

Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Olivine	7	100	1	2	euhedra	I	Nice pseudomorphs completely replaced
Plagioclase	5	5	1.5	2	euhedral- subhedral		glomerocrysts
Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	hape		nts
Olivine	30	100	0.25	subhedr	al		
Plagioclase	45	5	0.5	euhedra subhedr			
Clinopyroxene	20	30	0.25	0.25			
Opaques	5	0	0.2	subhedr	al		
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Vesicle	0						

THIN SECTIO	ON LABE	L ID:	392-	U1580/	A-52R-2-	W 132/135-TSB-TS 17	Thin section no.:	17
Observer	:		PD				Piece no.:	2
							Unit/subunit:	7
Thin secti	ion sumr	mary:	phen subo	ocrysts phitic t	s are pres exture en	R-2W 132/135 is a plagioclase-pl sent and show well-defined zona iclosing plagioclase laths. Olivine tely replaced by clay minerals.	nyric basalt. Two plagio tion. Large clinopyroxe was likely also a grou	oclase nes shov ndmass
	Plane	-polariz	zed:			Cross-pola	arized:	
					R-2122 122/106			
Igneous Pe Lithology: Groundmass g (avg.)		F.	•	lase phy	yric basalt			
Groundmass		p p	•	n-graine				
Lithology: Groundmass ((avg.)		۴ ۲ s	nedium uboph	n-graine	ed			
Lithology: Groundmass ((avg.) Texture 1: Texture 2:		۴ ۲ s	nedium uboph	n-graine	ed	Comments		
Lithology: Groundmass ((avg.) Texture 1: Texture 2: Phenocrysts	grain size	۴ ۲ ۶ ۲ ۶	nedium uboph parsely ^{Size} mode	n-graine itic y phyric Size max.	ed			
Lithology: Groundmass ((avg.) Texture 1: Texture 2: Phenocrysts	grain size	F F S S Replaced (%)	nedium uboph parsely Size (mm) 3 Size	n-graine itic y phyric Size max. (mm)	ed Shape euhedral			
Lithology: Groundmass ((avg.) Texture 1: Texture 2: Phenocrysts Plagioclase Groundmass	grain size	F F S S Replaced (%) 5	nedium uboph parsely Size mode (mm) 3 Size mode	n-graine itic y phyric Size max. (mm) 3	ed Shape euhedral	Comments		
Lithology: Groundmass ((avg.) Texture 1: Texture 2: Phenocrysts Plagioclase	grain size	F F S S Replaced (%) 5 Replaced (%)	nedium uboph parsely Size mode (mm) Size mode (mm)	n-graine itic y phyric Size max. (mm) 3 Shape	ed Shape euhedral co ral	Comments		
Lithology: Groundmass ((avg.) Texture 1: Texture 2: Phenocrysts Plagioclase Groundmass Olivine	grain size	F F S S Replaced (%) 5 Replaced (%) 100	nedium uboph parsely Size mode (mm) 3 Size mode (mm) 0.4	n-graine itic y phyric Size max. (mm) 3 Shape subhedr	ed Shape euhedral ral co ral	Comments		

Original (%)

0

Vesicle

Vesicle

Filled (%)

Size mode (mm) Size max. (mm)

Shape

Comments

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THIN SECTION LABEL ID:	392-U1580A-53R-2-W 75/77-TSB-TS 18	Thin section no.:	18
Observer:	PD	Piece no.:	3
		Unit/subunit:	7
Thin section summary:	Sample U1580A-53R-2W 75/77 is a plagioclase- phenocrysts are present and show glomerocryst- have a single crystal habit. Large clinopyroxenes plagioclase laths. Olivine was likely also a ground replaced by clay minerals.	like texture though they also show subophitic texture en	o appear to closing
Plane-polariz	zed: Cross	-polarized:	



Lithology:	plagioclase phyric basalt
Groundmass grain size (avg.)	medium-grained
Texture 1:	subophitic
Texture 2:	moderately phyric

Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Plagioclase	6	0	4.5	5	euhedral- subhedral		Shows glomerocryst-like texture though has a nice and singular habit
Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	Shape		nts
Olivine	30	100	1	subhedr	al		
Plagioclase	35	5	0.6		euhedral- subhedral		
Clinopyroxene	30	10	2.5	2.5		subophi	tic texture
Opaques	5	0	0.4	subhedr	al		
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Vesicle	0						

THIN SECTION LABEL ID: 392-U1580A-53R- Observer: PD					A-53R-	2-W 75	/77-TSB-TS 26	Thin section no. Piece no.:	: 26 3 7
Thin sect	ion sumi	mary:	phen show	ocryst subop	is pres hitic te	ent with exture e	75/77 is a plagioclase- n nice shape and fresh nclosing plagioclase lat completely replaced by	Unit/subunit: phyric basalt. One plagioc appearance. Large clinopy hs. Olivine was likely also v clay minerals.	lase
Plane-polarized:							Cross	s-polarized:	
	2 10+								<u> </u>
Lithology: Groundmass ((avg.)		e r	olagiocl medium	n-graine		alt			<u> </u>
Groundmass		i 1 2	-	n-graine	ed	alt			•
Lithology: Groundmass ((avg.) Texture 1:		i 1 2	nedium subophi	n-graine	ed	alt	Comments		
Lithology: Groundmass ((avg.) Texture 1: Texture 2:	grain size	r S Replaced	medium subophi sparsely Size mode	-graine itic phyric ^{Size} max.	ed		Comments		
Lithology: Groundmass ((avg.) Texture 1: Texture 2: Phenocrysts	grain size	Replaced (%)	medium subophi sparsely Size mode (mm) 3	-graine itic phyric ^{Size} max. (mm)	ed				
Lithology: Groundmass ((avg.) Texture 1: Texture 2: Phenocrysts Plagioclase	grain size	Replaced (%) 0	medium subophi sparsely Size mode (mm) 3 Size mode	n-graine itic phyric Size max. (mm) 3	ed Shape euhedra	al			
Lithology: Groundmass ((avg.) Texture 1: Texture 2: Phenocrysts Plagioclase Groundmass	grain size	Replaced (%) 0 Replaced (%)	nedium subophi sparsely Size mode (mm) 3 Size mode (mm)	n-graine itic phyric Size max. (mm) 3 Shape	ed Shape euhedra ral	al			
Lithology: Groundmass (avg.) Texture 1: Texture 2: Phenocrysts Plagioclase Groundmass Olivine	grain size Original (%) Original (%) 30	Replaced (%) 0 Replaced (%) 100	nedium subophi sparsely Size mode (mm) 3 Size mode (mm) 1	n-graine itic phyric Size max. (mm) 3 Shape subhedr euhedra	ed Shape euhedra ral	al Commen			
Lithology: Groundmasss (avg.) Texture 1: Texture 2: Phenocrysts Plagioclase Groundmass Olivine Plagioclase	grain size Original (%) Original (%) 30 35	Replaced (%) 0 Replaced (%) 100 5	nedium subophi sparsely Size mode (mm) 3 Size mode (mm) 1 0.6	n-graine itic phyric Size max. (mm) 3 Shape subhedr subhedr	ed Shape euhedra ral ral	al Commen	nts		
Lithology: Groundmass ((avg.) Texture 1: Texture 2: Phenocrysts Plagioclase Groundmass Olivine Plagioclase Clinopyroxene	grain size Original (%) 2 Original (%) 30 35 30	Replaced (%) 0 Replaced (%) 100 5 10	nedium subophi sparsely Size mode (mm) 3 Size mode (mm) 1 0.6 2.5	n-graine itic phyric Size max. (mm) 3 Shape subhedr subhedr 2.5 subhedr	ed Shape euhedra ral ral	al Commen	nts		

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THIN SECTION LABEL ID:	392-U1580A-59R-1-W 143/146-TSB-TS 19	Thin section no.:	19
Observer:	PD	Piece no.:	7
		Unit/subunit:	8
Thin section summary:	Sample U1580A-59R-1W 143/146 is a subophitic nice subophitic texture, enclosing and partially encodivine pseudomorphs are apparent in places, and texture but are nearly entirely altered. Some of the patches within larger crystals.	losing groundmass plagio I may also display some s	clase laths. ubophitic
Plane-polari:	zed: Cross-	oolarized:	



Igneous Petrology

Lithology:	aphyric basalt
Groundmass grain size (avg.)	medium-grained
Texture 1:	subophitic

Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	Shape		nts
Olivine	25	95	0.2	subhedr	subhedral		
Plagioclase	35	0	0.4		euhedral- subhedral		
Clinopyroxene	35	0	2	2	2		tic texture
Opaques	5	0	0.15	subhedr	subhedral		
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	ze max. nm) Shape		Comments
Vesicle	0						

THIN SECTION LABEL ID:	392-U1580A-63R-5-W 1/4-TSB-TS 20	Thin section no.:	20
Observer:	PD	Piece no.:	1
		Unit/subunit:	10a
Thin section summary:	Sample U1580A-63R-5W 1/4 is a plag glomerocrysts are fresh and reach up t completely replaced with chlorite show plagioclase, clinopyroxene, and oxides interstitial material is completely altered	ring well-defined pseudomorphs. The in the groundmass are unaltered but	
Plane-polariz	zed:	Cross-polarized:	



Lithology:	plagioclase phyric basalt
Groundmass grain size (avg.)	medium-grained
Texture 1:	glomeroporphyritic
Texture 2:	

Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	nax. Shape		Comments
Plagioclase	8	0	4	6	subhedr	al	glomerocrysts
Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	Shape		nts
Olivine	10	100	0.2	euhedra	euhedral		
Plagioclase	45	0	0.6		euhedral- subhedral		
Clinopyroxene	25	0	0.2	0.2			
Opaques	5	0	0.2	subhedr	subhedral		
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	^{Size max.} Shape		Comments
Vesicle	0						

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THIN SECTION LABEL ID: Observer:	392-U1580A-65R-2-W 119/122-TSB-TS 21 PD	Thin section no.:21Piece no.:1	
Thin section summary:	Sample U1580A-65R-2W 119/122 is a subophitic b show subophitic texture partially enclosing plagiocla grained and moderately altered. All groundmass of material is replcaed.	Unit/subunit: 10c asalt. Large clinopyroxene cr ase laths. The sample is coars ivine as well as all interstitial	ystals
Plane-polariz	zed: Cross-p	plarized:	

Igneous Petrology

Lithology:	doleritic basalt
Groundmass grain size (avg.)	coarse-grained
Texture 1:	subophitic
— · · —	

Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	Shape		nts
Olivine	10	90	0.4	anhedra	nhedral		
Plagioclase	30	20	1		euhedral- subhedral		
Clinopyroxene	40	5	8	8	8		
Opaques	5	0	0.4	subhedr	subhedral		
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Size max. (mm) Shape		Comments
Vesicle	0						

THIN SECTION LABEL ID:	392-U1580A-66R-3-W 0/3-TSI	B-TS 22	Thin section no.:	22
Observer:	PD		Piece no.:	1
			Unit/subunit:	10b
Thin section summary:	Sample U1580A-66R-3W 0/3 i laths averaging 2.5mm and clir completely replaced but show interstitial material is also comp	nopyroxene and olivines av nice pseudomorphs replace	eraging 2mm. Olivi	ines are
Plane-polariz	ed:	Cross-polarize	d:	

Igneous	Petrology
	37

Lithology:	dolerite			
Groundmass grain size (avg.)	coarse-grained			
Texture 1:	equigranular			
Texture 2:	aphyric			

Texture 2:		ć	apnyric				
Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape		Comme	nts
Olivine	20	100	2	euhedral- subhedral			
Plagioclase	35	5	2.5	subhedral			
Clinopyroxene	25	25	2	2			
Opaques	8	0	1.5	subhedral			
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape		Comments
Vesicle	0						

THIN SECTION LABEL ID:	392-U1580A-67R-1-W 23/26-	TSB-TS 23	Thin section no.:	23		
Observer:	PD		Piece no.:	2		
			Unit/subunit:	10b		
Thin section summary:	Sample U1580A-67R-1W 23/26 is a doleritic basalt. It is coarse grained and moderately altered. Plagioclase is fresh and the laths average 2mm. Oxides in the groundmass are quite large averaging about 1.5mm. The clinopyroxenes are somewhat altered. All olivine is completely altered as is the interstitial material.					
Plane-polariz	zed:	Cross-polariz	zed:			
AT MARK	2000					
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and the cases	dur alla tal		and the second second			

Igneous Petrology									
Lithology:		(dolerite						
Groundmass grain size (avg.)			coarse-grained						
Texture 1: equigranular									
Texture 2:	Texture 2: aphyric								
Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape		Comme	ents		
Olivine	5	100	0.6	anhedra	anhedral				
Plagioclase	40	5	2	subhedr	subhedral				
Clinopyroxene	25	20	1.5	1.5	1.5				
Opaques	5	0	1.5	subhedral					
Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Size max. (mm) Shape		Comments		
Vesicle	0								