Master's thesis

NTNU
Norwegian University of Science and Technology
Faculty of Natural Sciences
Department of Biology

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Arabidopsis thaliana THESEUS1 modulates phytohormone responses induced by plant cell wall damage

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Abstract

The plant cell wall is the defining structure of land plants that allowed them to free themselves from lying on the ground, but our understanding of the processes that maintain cell wall integrity (CWI) is extremely limited. *Arabidopsis thaliana Catharanthus roseus* receptor like kinase (CrRLK) THESEUS1 (THE1) is a cell wall integrity sensing PM localised protein. THE1 activity is dependent on the availability of the peptide Rapid Alkalinization Factor 34 (RALF34). THE1 is thought to interact with another closely related CrRLK FERONIA (FER). FER has been shown to interact with the phytohormones Jasmonic acid (JA) and abscisic acid (ABA) in response to cell wall damage (CWD), but if and how THE1 interacts with phytohormones is yet to be fully understood. THE1 mutants, *the1-1* and *the1-4*, were crossed with hormone reporters JAZ10::YFP for JA, pRAB18::GFP-GUS for ABA, and DR5::3xVENUS for auxin. These THE1 mutant – hormone reporter crosses were treated with isoxaben (ISX) to mimic reduced CWI and sorbitol to induce osmotic stress. These treatments were imaged at 0, 2, 4, 6, and 8 h timepoints, and this data was used to calculate percent area signal coverage. Several differences were noted between wild type THE1 and THE1 mutants; JAZ10 response to CWD was shown to decrease under the the1-1 mutant but not shown to increase under the *the1-4* mutant. The locations of pRAB18 signalling in Col-0 differed from the1-1 and *the1-4*. An increased DR5 signal in the stele initials, quiescent centre (QC), cortex/endodermal initial, columella initial and columella cells was noted in the THE1 mutants but not in wild type THE1. These results suggest that THE1 is directly connected to JA induction and possible ABA responses to cell wall damage. It also suggests that THE1 is not directly connected to auxin responses to cell wall damage and that this is caused by changes in apoplastic pH brought about by altered RALF34 THE1 interactions.

Sammendrag

Plantecelleveggen er den definerende strukturen til landplanter som tillot dem å nå sine til tider imponerende størrelser, men vår forståelse av prosessene som opprettholder celleveggintegritet (CWI) er ekstremt begrenset. *Arabidopsis thaliana Catharanthus roseus* reseptorlignende kinase (CrRLK) THESEUS1 (THE1) er et celleveggs integritetsfølende PM-lokalisert protein. THE1-aktiviteten er avhengig av tilgjengeligheten av peptidet Rapid Alkalinization Factor 34 (RALF34). THE1 antas å samhandle med en annen nært beslektet CrRLK FERONIA (FER). FER har vist seg å samhandle med fytohormonene Jasmonic acid (JA) og abscisic acid (ABA) som respons på celleveggskade (CWD), men om og hvordan THE1 interagerer med fytohormoner er ennå ikke helt forstått. THE1-mutantene, *the1-1* og *the1-4*, ble krysset med hormonreporter JAZ10:: YFP for JA, pRAB18 :: GFP-GUS for ABA, og DR5 :: 3xVENUS for auxin. Disse THE1 mutant-hormon reporter kryssene ble behandlet med isoxaben (ISX) for å etterligne redusert CWI og sorbitol for å indusere osmotisk stress. Disse behandlingene ble avbildet ved 0, 2, 4, 6 og 8 timer tidspunkter, og disse dataene ble brukt til å beregne prosent arealdekning. Flere forskjeller ble notert mellom villtype THE1 og THE1 mutanter; JAZ10 respons på CWD ble vist å avta under *the1-1* mutanten, men ikke vist å øke under *the1-4* mutanten. Plasseringen av pRAB18-signalering i Col-0 var forskjellig fra *the1-1* og the1-4. Et økt DR5-signal i stele-initialer, hvilesenter (QC), cortex / endodermal initial, columella initial og columella-celler ble notert i THE1-mutantene, men ikke i vill type THE1. Disse resultatene antyder at THE1 er direkte koblet til JA og mulige ABA-svar på celleveggskader. Det antyder også at THE1 ikke er direkte koblet til auxinsvarene på celleveggskader, og at dette er forårsaket av endringer i apoplastisk pH forårsaket av endrede RALF34 THE1-interaksjoner.

Acknowledgements

I would firstly like to thank Thorsten Hamann for the opportunity to work in the Hamann Research Group, for his willingness to answer all of my questions, and for putting up with all of the various maladies that have befallen me in the past two years with good humour. I would also like to thank my original co-supervisor Lauri Vaahtera, for his guidance, his wit, and his unwavering guidance in even the most trivial of issues. Next I want to thank my adopted co-supervisor Laura Bacete for all of her help in the past few months. Julia Schultz thank you for being open for any queries I've had and Svanhild Johanessen Starheim for entertaining me when we've been in the lab together.

Finally, I would also like to thank Marie Sjue Bye for putting up with the long hours and exhaustion after 12 hours of time course experiments.

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List of Abbreviations

ABA	Abscisic Acid
AUX	Auxin
CK	Cytokinins
Col-0	Columbia-0
CrRLK	*Catharanthus roseus* Receptor Like Kinase
CWD	Cell Wall Damage
CWI	Cell Wall Integrity
CWIM	Cell Wall Integrity Maintenance
GFP	Green Fluorescing Protein
GUS	Glucuronidase
ISX	Isoxaben
JA	Jasmonic Acid
JAZ10	Jasmonate-zim-domain protein 10
MCA1	*mid1*-Complementing Activity1
MS	Murashige and Skoog
MSL	Mechanosensitive Channel of Small Conductance-Like
PCR	Polymerase Chain Reaction
PM	Plasma Membrane
pRAB18	Promotor of Responsive to ABA 18
RAB18	Responsive to ABA 18
RALF	Rapid Alkalinisation Factor
RAM	Root Apical Meristem
WAK	Wall Associated Kinase
YFP	Yellow Fluorescing Protein

1 Introduction

1.1 Cell wall

The cell wall is the defining structure that allowed land plants to reach their sometimes-impressive sizes, with cellulose microfibrils and lignification of secondary cell walls providing the mechanical strength enabling plants to support their own weight and upright growth. Robert Hooke first coined the name 'cell' to describe the minute box like structures he saw in oak tree bark, he named them as such due to the cell's resemblance to the hexagonal cells in honeycomb (Carpita and Gibeaut, 1993). What he was looking at under the microscope was, in fact, the lignified remains of secondary cell walls surrounding once living cells. Cell walls provide structural support during growth, protection against biotic and abiotic stress, which makes them important elements influencing food crop performance. In addition they form sustainable raw materials for production of clothing such as cotton, linen, and viscose, and energy production (Kumar, *et al*., 2009; de Morais Teixeira, *et al*., 2010). Simultaneously cell wall composition and structure determine recalcitrance of biomass, influencing they affect production of energy from ligno-cellulosic biomass (Kumar, et al., 2009; Zhao, *et al*., 2012). Cellulose nanocrystals have been also proposed for widescale usage as polymer reinforcement (Ng, *et al*., 2015). Therefore, cell walls are also of particular importance for society with respect to sustainable food and energy production. Despite this obvious importance, our understanding of processes that give rise to and maintain the functional integrity of cell walls is still extremely limited.

1.1.1 Structure and composition

Located outside of the plasma membrane (PM) lies the cell wall. There are two types cell wall, primary and secondary. Cell walls consist of proteins and 4 different types of macromolecules: cellulose, pectins, hemicelluloses and lignin (Fig.1.1). The primary and secondary cell walls have different functions and thus different quantities of these constitutive elements (Cosgrove and Jarvis, 2012). The primary cell wall is integral during replication and elongation and the secondary cell wall is later laid down between the primary cell wall and PM when the cell has stopped growing to strengthen this protective barrier around the cell (Cosgrove and Jarvis, 2012).

Cellulose is the arguably the most important component of the cell wall and most common biopolymer on the planet. It consists of thousands of β(1→4) linked D-glucose subunits, has high tensile strength (similar to steel) and thus is the main load carrying polymer in primary cell walls (Burton, *et al*., 2010). In elongating cells, the orientation of the cellulose microfibrils is not quite perpendicular to the direction of growth, but as a helix with a fine pitch, which allows cells to form a more cylindrical structure. Experiments involving the cell wall biosynthesis inhibitor isoxaben (ISX) show that if cellulose production in the elongation zone in roots is halted, cells adopt a more spherical structure (Tateno, *et al*., 2015; Engelsdorf, *et al*., 2018). ISX only alters cell shape in expanding cells and thus cells with only a primary cell wall, such as cells in the root tip. The quasi-spherical shape is a consequence of turgor pressure being applied to a relatively uniform cell wall (due to the lack of cellulose, and more specifically a lack of cellulose organized in a particular orientation). It has been suggested that for cells to

elongate, a combination of high turgor pressor levels controlled cell wall loosening / formation is required. This is controlled by a dedicated signalling pathway, which during the loosening ensure that also more cellulose is laid down in a tightly controlled manner to maintain cell wall strength (Carpita and Gibeaut, 1993).

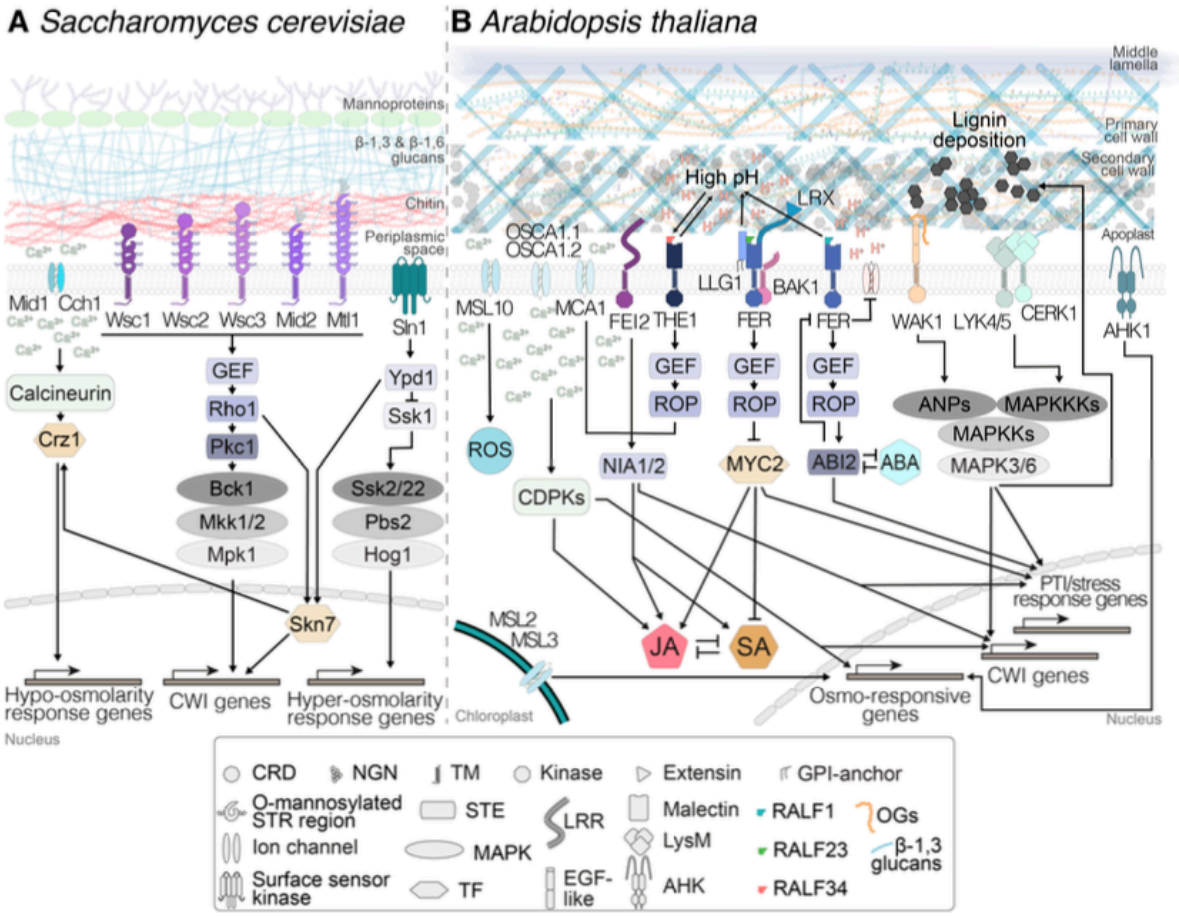


Figure 1.1 Comparison of CWIM mechanism in S. cerevisiae (A) and A. thaliana (B).

Obtained from Bacete and Hamann, 2020.

1.1.2 Cell wall integrity maintenance (CWIM)

The organisation of a cell wall of a yeast cell is simpler than that of a plant cell wall (Fig. 1.1) and surrounds only a unicellular organism. Therefore, one might think that it has to perform different roles, but many of the challenges are the same. They both have to counter the effects of osmotic shocks and biotic, (*e.g.*, bacterial, fungal, and viral pathogens) and abiotic stress (*e.g.*, nutrient imbalance, high temperature) (Levin, 2011; Hamann, 2015a; Tenhaken, 2015). In *Saccharomyces cerevisiae* the cell wall integrity (CWI) maintenance mechanism is thought mainly to be driven by PM stretch or displacement of the PM in relation to the cell wall. This has been shown through activation of the CWI maintenance (CWIM) mechanism by the introduction of chlorpromazine to cause separation of the PM and cell wall (Levin, 2011). The CWIM mechanism in yeast can be halted by changing the osmotic potential of environment and thus reducing high turgor pressure levels (Hamann, 2015b). For this reason, the very

well-characterized CWIM mechanism in *S. cerevisiae* is used as a conceptual framework for investigating the possible mechanisms of CWIM in plants.

There are two different models that have been suggested concerning the manner in which sensing of CWI impairment stress sensing could be mediated. The first involves fragments released from the wall because of damage sustained that are subsequently sensed by receptor-like kinases (RLKs). Wall associated kinases (WAKs), turgor sensitive pectin bound transmembrane proteins, have also been implicated in the process (Hamann, 2015a). However, their roles are not well-defined. The other model relies on a turgor driven framework, cell wall damage (CWD) causes weak points in the cell wall and therefore the turgor causes deformation / displacement of the PM in relation to the cell wall. This would function as stimulus indicating that the integrity of the wall has been impaired. This model relies on mechanosensitive proteins, *e.g.,* the *mid1*-Complementing Activity1 (MCA1) and turgor sensitive proteins, such as the Mechanosensitive Channel of Small Conductance-Like2 (MSL2) and MSL3 (Wilson, *et al*., 2014; Iida, *et al.*, 2014; Kamano, *et al*., 2015). Both of these models have their own merits, but a third combinatorial model has also been proposed that incorporates both types of CWD sensing (Gigli-Bisceglia, *et al.*, 2020).

1.1.3 Role of THESEUS1

Catharanthus roseus receptor like kinase (CrRLK) THESEUS1 (THE1) is a cell wall integrity sensing PM localised protein (Merz, *et al*., 2017). There are several mutations of the THE1 gene, one loss of function mutant is referred to as *the1-1* containing a point mutation: $G^{110}A$, causing a substitution in the protein: $G^{37}D$ in one of its Malectin domains (Hématy, *et al*., 2007). One hypermorphic mutation known as *the1-4* contains a T-DNA insertion at that causes deletion of the cytoplasmic domain (Merz, *et al*., 2017). Interestingly this mutation misses its kinase domain and yet has an increased activity, suggesting the kinase domain is not integral to the active function of THE1 (Merz, *et al.*, 2017; Gonneau, *et al*., 2018).

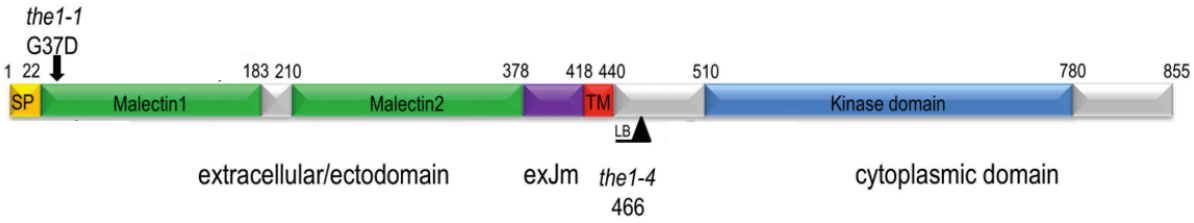


Figure 1.2 The structure of the THE1 protein.

LB shows the location of the left boarder of the *the1-4* mutant. Modified from Merz et al. (2017).

THE1 has been shown to be integral to maintaining cellular homeostasis in JA-SA-lignin levels (Engelsdorf et al., 2018), with *the1-4* increasing these and *the1-1* decreasing these. Gonneau, *et al*. (2018) showed that THE1 activity is dependent on the availability of the peptide Rapid Alkalinization Factor 34 (RALF34) and that this activity is dependent on another CrRLK, FERONIA (FER) that itself relies on two other RALFs RALF1 and RALF23.

More is known about FER and its interplay with phytohormones, such as FER has been shown to modulate JA signalling (Guo, *et al*., 2018). The interactions between abscisic acid (ABA) and FER have been shown previously (Yu *et al*., 2012; Chen *et al*., 2016). This is one of the reasons THE1 is so interesting, its tight bonds with a similar protein help guide us in a direction and the effects of its mutants suggest its involvement with the CWIM mechanism.

1.2 Phytohormones

Phytohormones are different signalling molecules present in plants, which are often involved in the mediation of responses to external stimuli and regulation of growth and development (Peleg and Blumwald, 2011). Individual phytohormones can control certain aspects of growth and development, but often they work together with or in opposition to another phytohormone to increase level of control i.e. allow finetuning of processes and adaptation to an environment defined by different aspects like hot, dry and high light conditions vs. cold, wet and dark. There is a great deal of evidence that phytohormones levels change in response to CWD and several proteins have been identified, which seem to be involved in these processes (Yu *et al.,* 2012; Denness, *et al*., 2015; Chen, *et al.,* 2016; Engelsdorf, *et al*., 2018).

1.2.1 Jasmonic Acid

JA is a fatty acid that is known to be involved in the regulation of the uptake of nitrogen and phosphorus, stomatal opening, and RuBisCO biosynthesis (Ruan, *et al.*, 2019). Alongside these organism maintenance roles, it acts as a response element to wounding, and more specifically cell wall damage (Denness, *et al*., 2011). This increased JA production in response to CWD causes lignin deposition in the cell wall (Hamann, *et al*., 2009).

Whilst FER has been shown to inhibit JA signalling through MYC2 destabilisation, interestingly FER's interaction with RALF23 restabilises MYC2 and thus promotes JA signalling (Guo, *et al*., 2018). THE1 has been shown to be required for JA production in response to CWD caused by ISX and Driselase (an enzyme mixture that degrades cell walls) (Engelsdorf, *et al*., 2019). However, this study only presented whole seedling hormone mass data and did not show what effects *THE1* mutants had on cell/tissue specific locations of JA production.

The reporter selected to act as an indicator of altered JA levels in response *THE1* mutants was Jasmonate-zim-domain protein 10 (JAZ10)::Yellow Fluorescing Protein (YFP) as JAZ10 is a primary response gene to JA production (Moreno, *et al.*, 2013), this does however suggest that there will be a lag in response time between direct measurements of JA concentration and JAZ10::YFP signal intensity.

1.2.2 Abscisic Acid

Abscisic acid (ABA) is related to many functions within the plant including embryo and seed development, seedling establishment, and general growth (Cutler *et a*l., 2010). When the plant is undergoing osmotic stress, ABA has two main roles, firstly the closure of stomata through the control of guard cells to limit water loss through leaves and secondly the induction of production of dehydration tolerance proteins (Zhu, 2002). The prevailing theory states that upon soil desiccation ABA is induced in the roots and is transported into the xylem and once it reaches the leaves causes guard cell closure and induction of production of dehydration tolerance proteins in those tissues (Kuromori, *et*

al., 2018). To simulate the effects of osmotic stress in the lab we treat seedlings in liquid culture with high concentrations of sorbitol.

Whilst the effects of FER on ABA and conversely the effects of ABA on FER have been uncovered for some time (Yu *et al.*, 2012; Chen, *et al*., 2016), potential pathways involving THE1 and ABA are yet to be found (Baccete and Hamann, 2020).

The reporter selected to act as an indicator of altered ABA levels in response *THE1* mutants was pRAB18::GFP-GUS. pRAB18 is induced by changes in ABA levels, but this does mean pRAB18 response signal lags ABA production (Waadt, *et al*., 2015).

1.2.3 Auxin

Auxin is one of the most well known phytohormones in plants mostly due to the broad spectrum of pathways it is involved in. From phototropism to root and shoot architecture auxin is involved in many aspects of whole plant structural patterning (Woodward and Bartel, 2005). Whilst little evidence can be found on the role of auxin in the CWIM mechanism, auxin production increases in the cells surrounding a wound site to maintain the structural integrity of the surrounding tissue and triggers regeneration at that site (Hoermayer, *et al*., 2020).

Auxin and cytokinin (CK) are well known to act antagonistically or synergistically with one another depending on the specific function they are controlling (Su, *et al*., 2011). This can be seen very well in the root apical meristem (RAM) and surrounding tissue where CK modulates auxin transport between cells by altering expression of PIN FORMED (PIN) efflux carriers (Ruzicka, *et al.*, 2009).

The reporter selected to act as an indicator of altered auxin levels in response *THE1* mutants was DR5::3xVenus. DR5 based reporter lines have been shown previously to respond to changes in auxin concentration (Blilou, *et al.,* 2005) and thus is the favoured method for visualising auxin response to cellular changes.

1.3 Root structure

Along the length of the Arabidopsis primary root there are three zones (Fig. 1.3), the meristematic zone is approximately 250 μm in length containing the RAM, lateral root cap, columella, and newly divided cells. The elongation zone is approximately 250 μm in length containing cells that the cells that are elongating and the differentiation zone is where cells transform into their differentiated states (Dolan, *et al*., 1993). This border between the elongation zone and differentiation zone is often marked by the beginnings of root hair cell formation (Fig. 1.3). The meristematic and elongation zones are the most favourable for imaging responses to ISX as these regions exclusively contain cells with only primary cell walls.

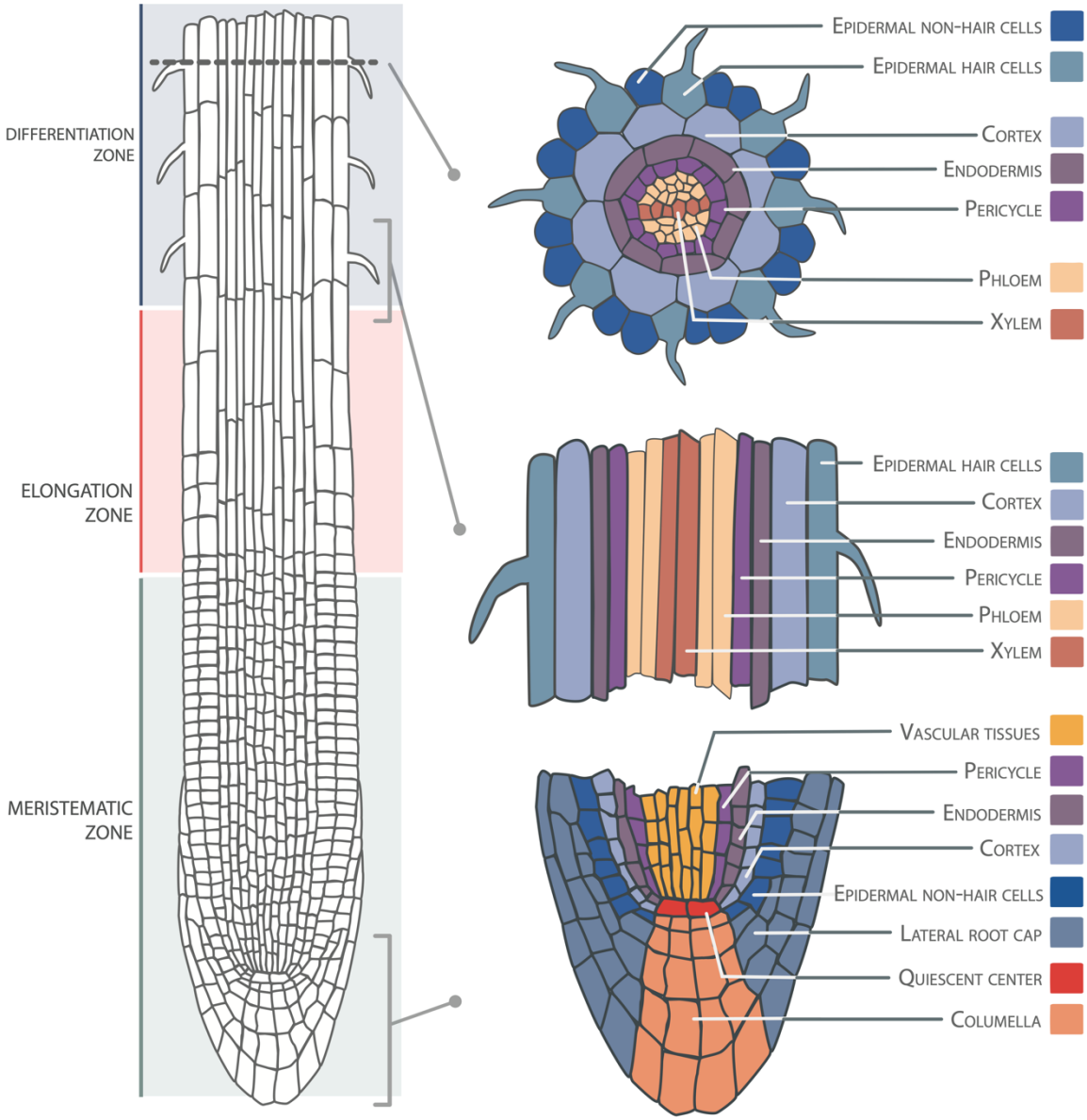


Figure 1.3 Diagram of root structure.

Obtained from Bouché (2017)

1.4 Objectives

The aim of this investigation is to discern what roles THE1 plays in the modulations of JA, ABA, and auxin responses induced by plant cell wall damage in *A. thaliana*. This is to be elucidated at the cellular level by imaging *the1* mutants containing hormone reporter lines during ISX and sorbitol treatments at different timepoints. The data obtained will aid in the understanding of the interconnected network that is the plant CWIM mechanism.

2 Materials and Methods

2.1 Plant material

All *A. thaliana* lines were in Col-0 background with the *THE1* mutant lines were: *the1-1* ($G^{37}D$) and *the1-4* (SAIL_683_H03)

2.2 Crossing

Closed flowers were selected on plants ~20 cm tall, sepals, petals and stamina were removed to reveal the pistil, stamens were removed from slightly open flowers on another plant of similar height. The anthers from the second plant were gently rubbed on the stigma of the first plant to transfer pollen into the pistil. The plants selected to act as males were from reporter lines, to increase efficiency of crossing confirmation as imaging can be performed on the leaves of offspring to screen for fluorescence, instead of more time-consuming molecular methods. After the collected seeds were sewn, the F1 plants each had leaves removed, the leaves were stressed through several cuts and were imaged under a Zeiss Axio Zoom.V16. Successful crosses were allowed to grow up and self-fertilise, these seeds were later sown into separate pots, 40 of the F2 seedlings (40 seedlings were selected as there is a 1 in 16 chance of any seedling being double homozygous for the required mutant allele and reporter insertion, therefore there is only a 7.6 % chance in a selection of 40 seedlings that there are no homozygous double mutants) from each crossing were then transplanted into pots containing four individuals, after two weeks each plant had a small leaf removed for DNA extraction and subsequent genotyping.

2.3 Genotyping

For genotyping the F2 plants to find homozygous cell wall mutant lines an approach using molecular techniques was employed, and to find plants also homozygous for reporter gene insertions fluorescence imaging was used.

2.3.1 DNA extraction

DNA extraction was performed using a highly modified version of the plant DNA extraction protocol first published by Edwards, *et al.*, (1991). Each small leaf was placed in a 2 mL Eppendorf tube and stored at -18°c. After freezing each tube had a large metal bead and 700 µL DNA extraction buffer (100 mM Trizma base, 50 mM EDTA, 500 mM NaCl, pH 8) added. The tube was then placed in a TissueLyser (Qiagen) at 25 Hz for 20 s shaking was repeated once after the initial run. The tube was then centrifuged at 16 KG for 5 minutes, 400 µL supernatant was removed and added to a new 1.5 mL Eppendorf tube containing 400 µL isopropanol and centrifuged again at 16 KG for a further 5 minutes. Supernatant was discarded and 1 mL 70% ethanol was added to the tube which was centrifuged at 16 KG for 5 minutes. The ethanol wash was discarded and the last of the ethanol was evaporated off from the pellet by placing the tube in a heat block for 20 minutes. The tube then had 100 µL MQ water added and were stored at -18 °C.

2.3.2 Polymerase Chain Reaction (PCR)

Tubes were thawed and DNA pellets were attempted to be observed, to indicated if they had dissolved. 1 µL of DNA extract was added to PCR tubes (0.2 mL), 18 µL master mix (125 µM dNTP, 1X PCR buffer, 1U Taq polymerase) was added to the tube, and then 0.5 µL of each primer (10 mM) was added to the tube. Tubes were then placed in the thermocycler (Initial denaturation – 95 °C 2 min, (denaturation – 95 °C 20 s, annealing – 57 °C 30 s, elongation – 72 °C 1 min) x 34, final elongation – 72 °C 5 min, hold at 12 °C).

Table 2.1 Primer List.

Primer sequences used with expected lengths of products.

Name	Sequence (5'-3')	Length (BP)
the1-1 (LP)	TGGTGTTCACAAAATCATTACTTGT	413 (*the1-1* cleaved with CAPS 105 + 308 bp)
the1-1 (RP)	GGAGAAGTTGTTCAAGAGCACG	413 (*the1-1* cleaved with CAPS 105 + 308 bp)
the1-4 (LP)	CCGGGTCTAGATAACCAAAGC	962 (*THE1* product)
the1-4 (RP)	TGTTTTAACCGTTAGCGTTGG	962/430-730
the1-4 (BP)	TAGCATCTGAATTTCATAACCA ATCTCGATACAC	430-730 (*the1-4* product)

2.3.3 Digestion

For genotyping the *the1-1* crosses the CAPS marker was used to screen for mutant alleles. The point mutation that causes the previously mentioned loss of function also means the gene can be cut by the CAPS enzyme and thus the mutation can be screened for easily. After the PCR reaction was finished, 1 µL PCR product was transferred to a new PCR tube on ice, to this 3 µL digestion buffer, 0.1 µL (5 U/µL) NmuCL enzyme and 26 µL of MQ water was added. The samples were left in a thermocycler at 37 °C for 15 h and then heated to 65 °C for 20 minutes.

2.3.4 Electrophoresis

TAE (40 mM Tris base, 20 mM acetic acid, 1 mM EDTA) with 1% agarose was heated in a microwave, left to cool for 5 minutes. GelRed was added (1:40,000) and agarose mixture was poured into gel mould (25 cm x 25 cm) then combs were inserted. The gel was left to sit at room temperature for 20 min, combes were removed, and gel and gel tray were removed from gel caster and placed in the running chamber containing TAE. 5 µL PCR products were mixed with 1 µL 6x loading dye, 1 µL was loaded into each well, along with 1 µL regularly spaced GeneRuler 1kb DNA ladder (Thermo Fisher). Gels were run at 110 V for 45 minutes. Gels were then imaged using a Gel Doc 2000 (BioRad).

2.3.5 Genotyping through microscopy

F2 plants that were homozygous for the THESEUS1 mutants *the1-1* and *the1-4* had their seeds collected and grown in well plates containing ½ Murashige and Skoog (MS) basal media (0.21% MS salts, 2.6 mM MES sodium salt, 1% sucrose in MQ water, HCl to pH 5.7). After 6 days F3 seedlings were treated with the respective reporter line hormone (2

μM JA, 1 μM ABA, 1 μM AUX). After 4 hours of treatment seedlings were imaged using fluorescence. If all F3 seedlings exhibited hormone reporter signal, their parent was deemed to be homozygotic for the reporter, and thus they were found to be double homozygous.

2.4 Seed surface sterilisation

To prevent fungal and bacterial growth in liquid media the seeds have to be sterilized before they are sown.

2.4.1 Seed surface sterilisation – liquid based method

2ml Eppendorf tubes were filled with ~200 seeds, 1 mL 70% ethanol was added to each tube and the tubes were rotated for 10 minutes before the ethanol was pipetted out and replaced with 1 mL 50% bleach solution. The tubes were rotated for 4 minutes, vortexed and rotated for a further 4 minutes. The bleach solution was removed by pipet under a laminar airflow cabinet and 3 washes of 1 mL MQ water was used to remove any remaining bleach were performed. The tubes were then inverted a couple of times until the seeds were dispersed within MQ water, the seeds were then pipetted up and deposited in conical flasks containing growth solution.

2.4.2 Seed surface sterilisation - dry method

For higher numbers of plant lines or techniques that necessitated dry seeds an alternate method of sterilisation was used. A 250 mL beaker containing 100 mL bleach was placed inside a container alongside open 1.5 mL Eppendorf tubes containing a maximum ~4 mm of seeds. To the beaker, 3 mL HCl was added, the container was closed immediately, and the edges were covered with silicone tape, after 3 hours the container was opened in the fume hood and the beaker was removed, the container lid was replaced onto the container and the container was moved to a laminar hood where the racks were removed from the container and the tubes were allowed to vent for approximately 1 hour, the caps were then closed.

2.5 Plant growth

2.5.1 Growing plant tissue on soil

Seeds were scattered on damp autoclaved soil (S-JORD, Hasselfors Garden AB autoclaved at 121°C for 20 min) pots were covered with plastic film and stratified at 4°c for 2 days, they were then moved to a growth room (16 hours at 150 $\mu mol.m^{-2}.s^{-1}$ light intensity at 22°C with a night cycle of 8 h dark at 18 °C, 50 % relative humidity) and watered every 3 days, after one week the cling film was removed. Right after the first set of true leaves had begun to emerge seedlings were transplanted into several pots contain 4 seedlings each.

2.5.2 Growing plant tissue in liquid culture

Seeds were sterilised and ~100 seeds were transferred into autoclaved conical flasks (250 mL) containing 125 mL ½ MS media and stratified at 4°c for 2 days, they were then moved to a growth room (16 hours at 150 $\mu mol.m^{-2}.s^{-1}$ light intensity at 22°C with an night cycle of 8 h dark at 18 °C, 50 % relative humidity) and placed on a shaker at 130 rpm.

2.6 Treatment

For osmotic treatment 6 day old seedlings were transferred in sorbitol media (0.21% MS, 2.6 mM MES sodium salt, 300mM sorbitol, 1% sucrose in MQ water, HCl to pH 5.7). For ISX treatment seedlings were transferred to new media containing 125 µL 0.6 µM ISX in DMSO. For treatments not involving ISX, media also contained 125 µL DMSO. Five treatment times of 0, 2, 4, 6, and 8 h were selected to observe any changes that occurred over time. The '0 h' treated seedlings were taken directly out of their original growth medium and imaged.

2.7 Imaging

Four seedlings were placed lengthways on each slide with the cotyledons toward the edges and the root tips toward the centre, 250 µL of media was pipetted onto the slide and a coverslip was placed on top. Seedlings were imaged using a Zeiss Axio Zoom.V16 using the yellow fluorescence filter, 41% aperture, 6.1x zoom, 1x objective lens and an 8 s acquisition time.

2.8 Data analysis

2.8.1 Percent area calculation using FIJI

Root tip/elongation zone images had their percent fluorescence area calculated using the ImageJ based program FIJI. Percent area was calculated by splitting image channels, creating a mask of the area above a selected lower threshold and measuring the area of the mask a fraction of the image. This method was automated using the script shown in Appendix. 2. The lower thresholds used for this method were calculated using the equation below.

$$\boldsymbol{Lower\ Threshold = Threshold\ A + (Threshold\ B - Threshold\ A)\ x\ 0.1}$$

Threshold A = For Jaz10::YFP – a 50% sample of 0 hour timepoint images was used to calculate the mean lowest upper threshold value where 100% of the image area was below the threshold. For pRAB18::GFP-GUS - a 50% sample of 0 hour timepoint images was used to calculate the mean lowest upper threshold value where 100% of the image (not including the columella) area was below the threshold.

Threshold B = For Jaz10::YFP - a 50% sample of Jaz10::YFP x Col-0 8 h ISX MS images was used to calculate the lowest upper threshold value where 100% of the image area was below the threshold. For pRAB18::GFP-GUS - a 50% sample of pRAB18::GFP-GUS x Col-0 8 h ISX sorbitol images were used to calculate the lowest upper threshold value where 100% of the image area was below the threshold.

Due to the high signal at the 0 h timepoint in DR5::3xVenus seedlings the lower threshold was calculated by averaging the thresholds calculated for Jaz10::YFP images and pRAB18::GFP-GUS images.

The addition of 10% of the difference between thresholds A and B to threshold A was incorporated into the lower threshold to account for low level variations between root tips.

2.8.2 Statistical Analysis

Tukey 'Honest Significant Difference' (TukeyHSD) tests were performed in R between *the1-1*, *the1-4*, and Col-0 percent area values within treatments, timepoints and reporter lines.

3 Results

3.1 Genotyping

In order to confirm that reporters have been introduced successfully plants need to be genotyped. Here the genotyping was based on molecular markers, so leaves were collected, DNA was extracted, PCRs were performed and PCR products were digested using restriction enzymes and the products analysed using electrophoresis. Representative examples for the electrophoresis gel data are shown in (Fig. 3.1), rest of the data can be found in Appendix 1. Fig. 3.1 shows results for a control reaction with template from plants which were either homozygous mutant for *the1-1, the 1-4* or heterozygous.

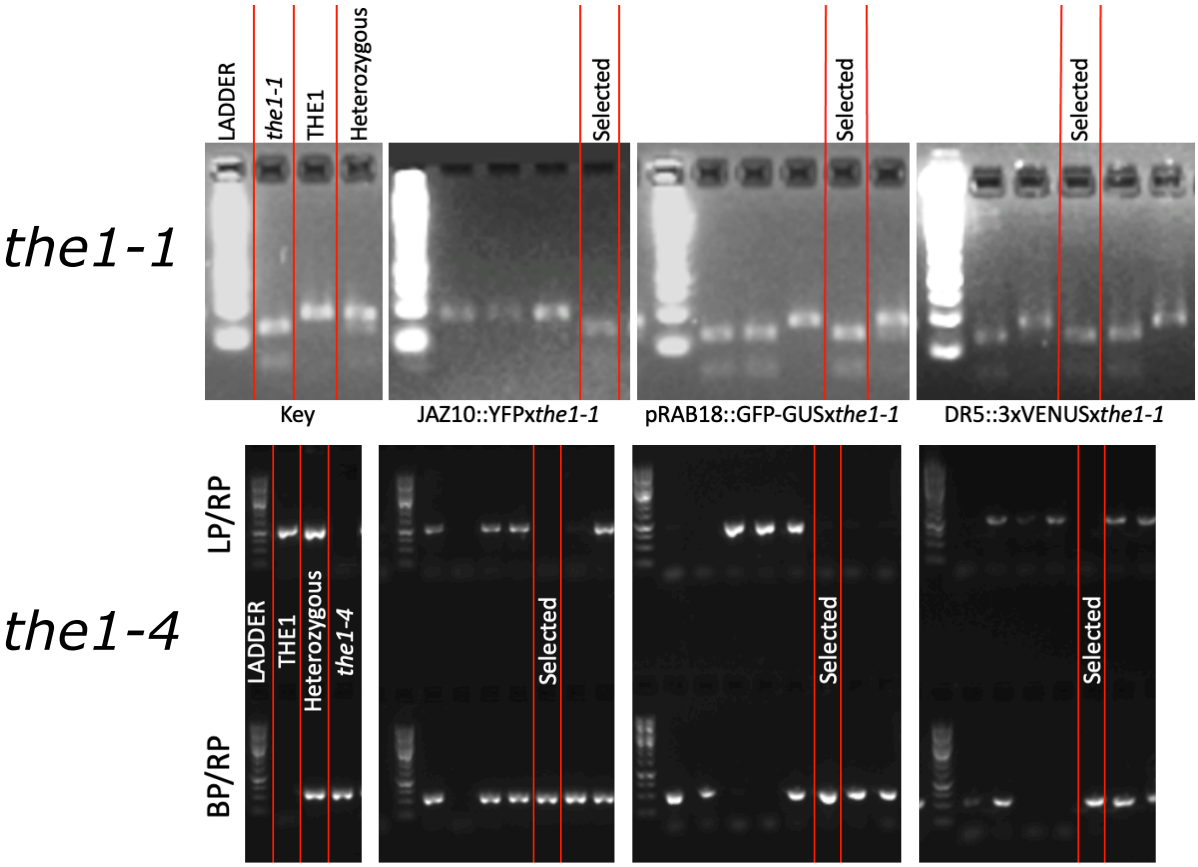


Figure 3.1 Genotyping F2 generation THE1 mutant/hormone reporter crosses electrophoresis gel images.

the1-1 gel image sections on the top and *the1-4* gel image sections on the bottom. Expected band sizes: *THE1* (*the1-1*) 413 BP, *the1-1* 105 + 308 BP, *THE1* (*the1-4*) 962 BP, *the1-4* 430-730 BP

Approximately 40 F3 seeds (40 seeds were selected to account for a worst case scenario of a 50% germination rate, and a 75% chance that any individual seed will show some

fluorescence from a heterozygous parent and therefore there would only be a 0.3% chance that in this selection of seeds an offspring without a copy of the reporter line would not show up) from an individual showing a genotype needed were then grown in ½ MS liquid medium for 6 days and treated with the hormone capable of inducing the reporter to be studied for 4 h. If all F3 seedlings fluoresced the parent was considered to be double homozygous for the THE1 mutations and reporter of interest.

3.2 Jasmonic Acid

In Fig. 3.2 A a signal can be observed in ISX-treated JAZ10::YFP x Col-0 seedlings initially after 4 hours and it increases over time. By contrast the signal seems to be weaker in seedlings treated simultaneously with ISX and sorbitol (particularly pronounced after 8h). Similar treatment effects are observed in JAZ10::YFP x *the1-4* seedlings of but the signal intensity from ISX MS treatment appears to be stronger particularly after 8h (Fig. 3.2) but this contrast is less apparent in Fig. 3.4. However, this pattern is not observed in Fig. 3.2 B where there is no obvious change in signal intensity in any of the treated JAZ10::YFP x *the1-1* seedlings.

In order to better understand the qualitative effects observed in Fig. 3.2., imaging data was used to quantify JAZ10::YFP signal in seedlings exposed to the different treatments and being homozygous for *the1-1* or *the1-4*. Figure 3.3. summarizes the results of this work. Next to no fluorescent area was detected in mock or sorbitol-treated seedlings (Fig. 3.3. A and B). Fig. 3.3.C summarizes data from ISX-treated seedlings. The area of fluorescence steadily increases in both Col-0 and *the1-4* root tips over time whereas this seems not to be the case for *the1-1* JAZ10::YFP seedlings. The differences seem to be more pronounced at later time points.

Only ISX MS treated seedlings showed statistical differences in percent area fluorescence between Col-0 and THE1 mutants. Statistical differences were found between *the1-4* and Col-0 at 4 hrs ($p=0.031$). Later timepoints show *the1-4* and Col-0 precent area data having statistical differences from *the1-1* (between Col-0 and *the1-1* ($p=0.032$) at the 6 h timepoint, and between *the1-4* and *the1-1* ($p=0.018$) and Col-0 and *the1-1* ($p=0.008$) at the 8 h timepoint).

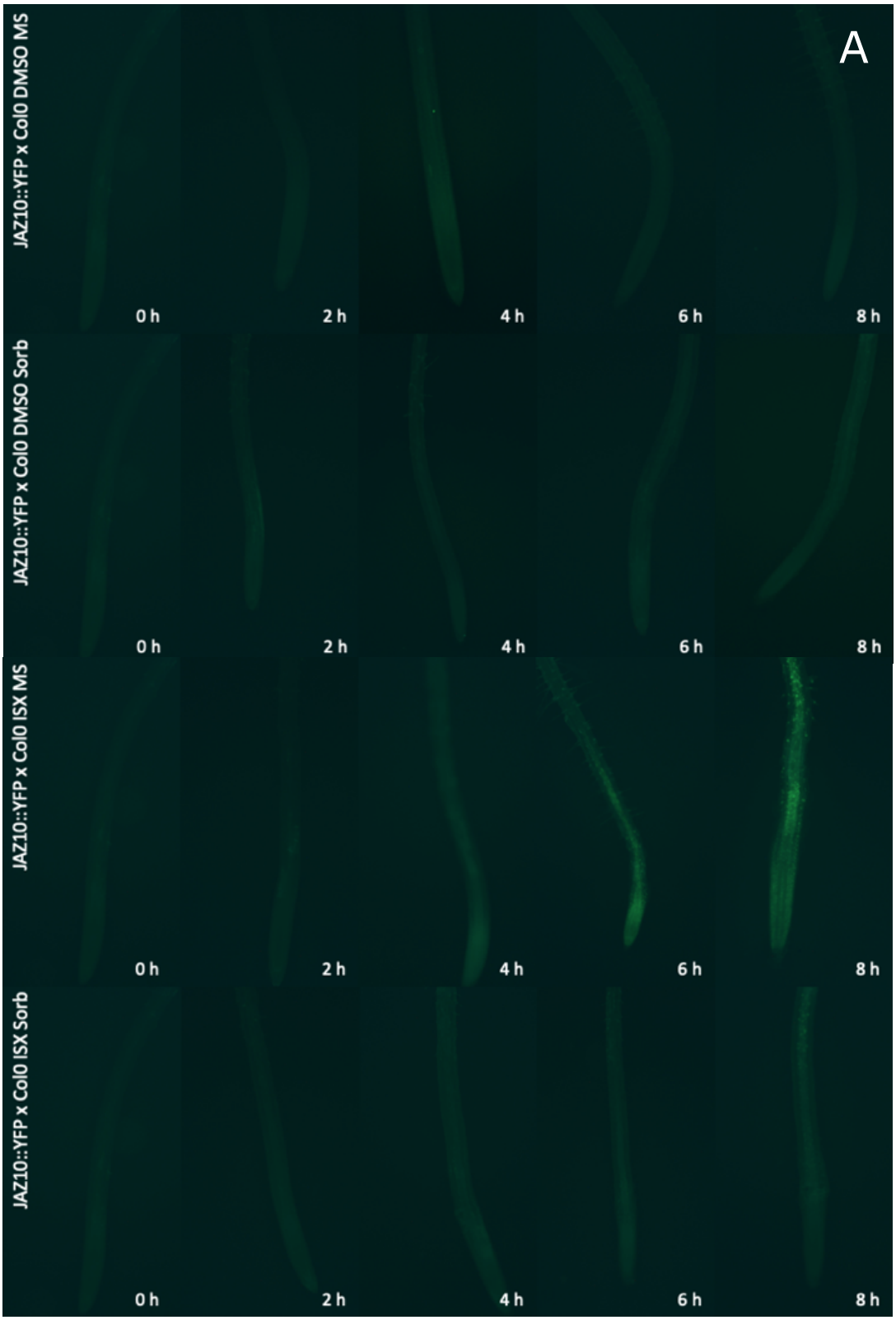
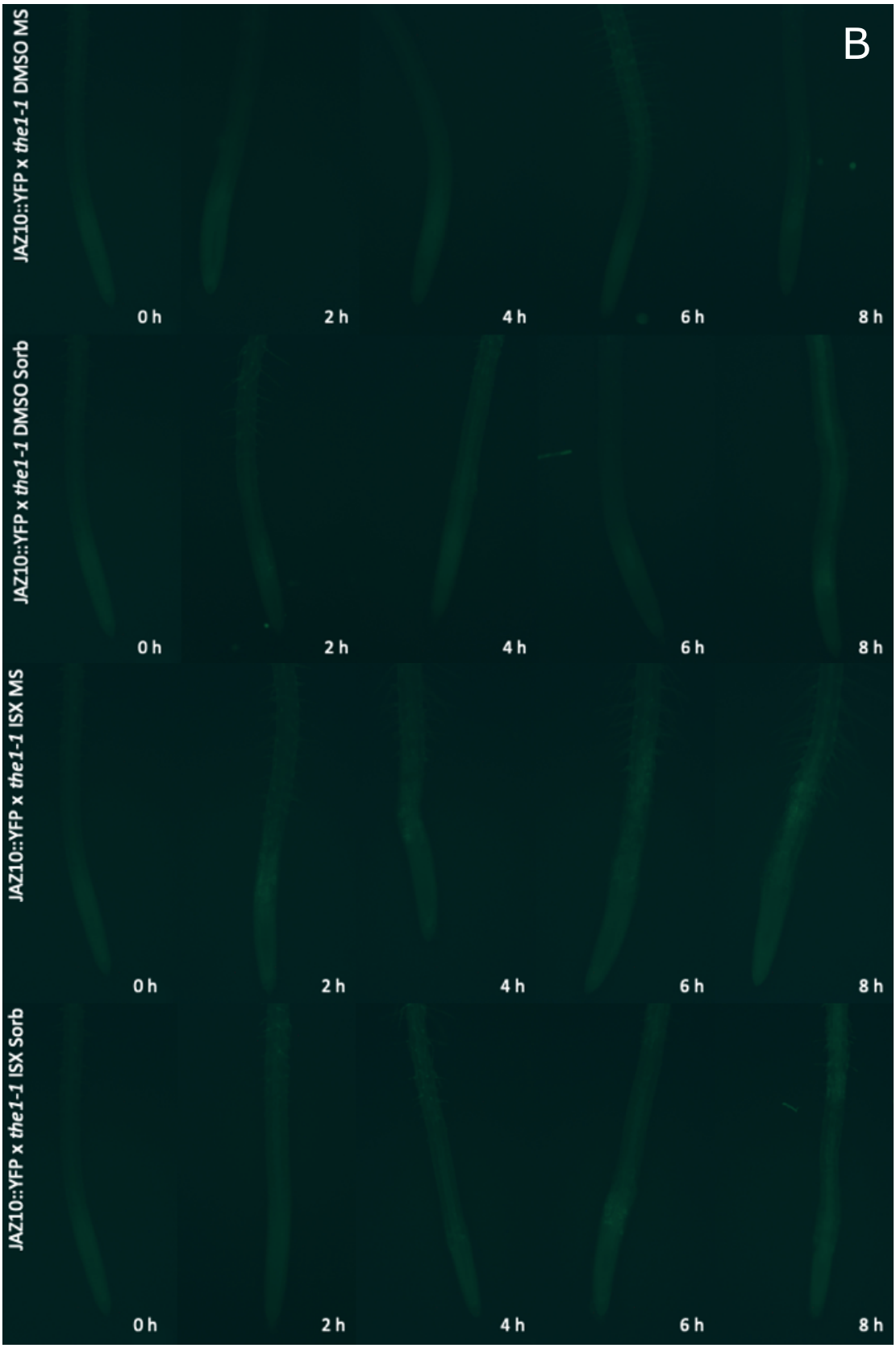


Figure 3.2. continued on next page...



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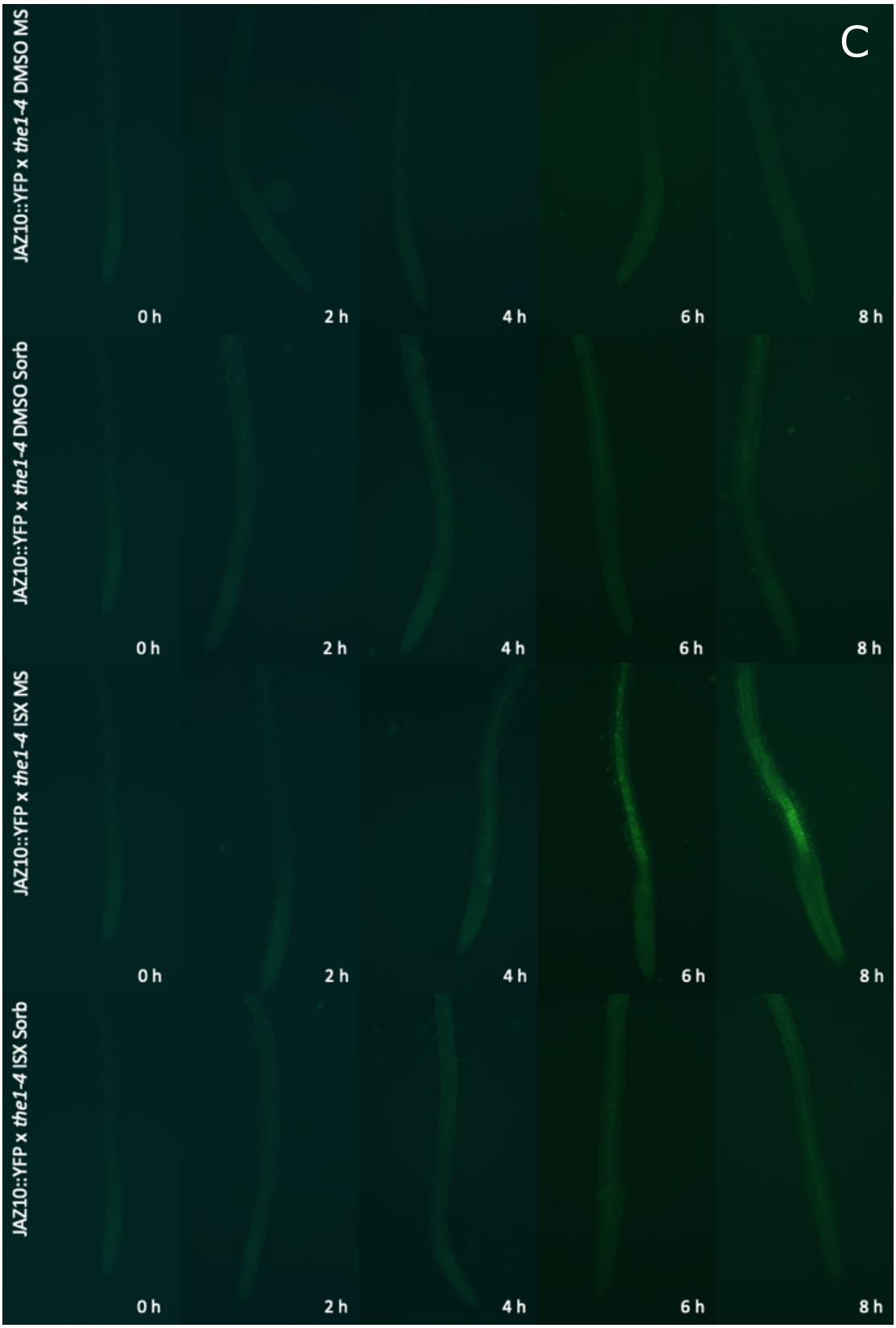


Figure 3.2 6 day old JAZ10::YFP crosses with Col-0 (A), *the1-1* (B), and *the1-4* (C) seedlings.

Representative images of root tips treated with DMSO Murashige and Skoog (MS), isoxaben (ISX) MS, DMSO sorbitol, and ISX sorbitol at 0, 2, 4, 6, and 8 h timepoints.

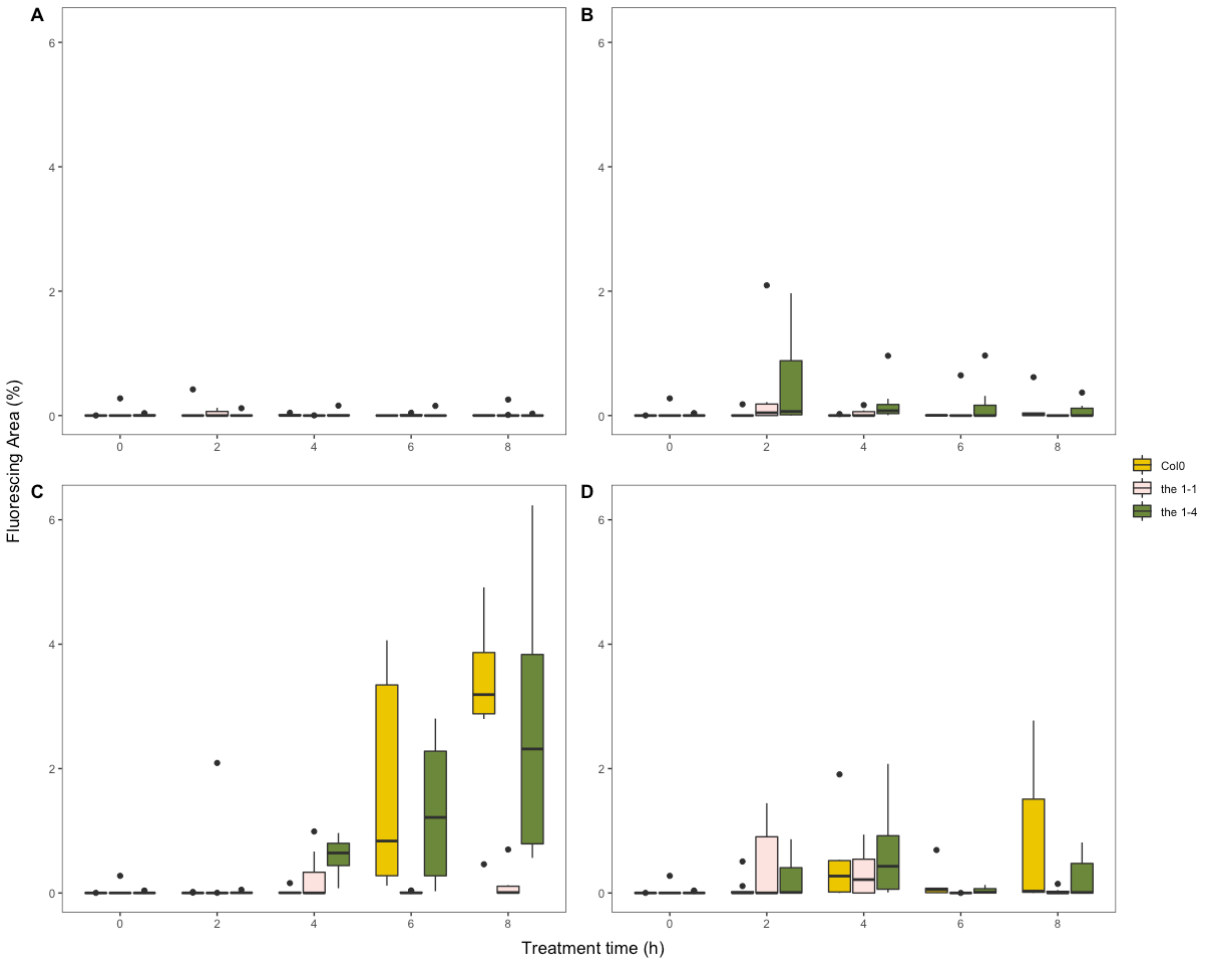


Figure 3.3 JAZ10::YFP x *the1-1*, *the1-4*, Col-0 fluorescence area above threshold, treated with DMSO Murashige and Skoog (MS) (A), DMSO sorbitol (B), isoxaben (ISX) MS (C) and ISX sorbitol (D) at 0, 2, 4, 6 and 8 hour timepoints

X-axis shows time in hours, Y-axes fluorescence area in %. Floating points on graphs show outliers more than 1.5x the interquartile range outside the quartile boundaries. For each time point and genotype 5 or more seedlings were imaged between 2 replicates (individual percent area data in Appendix. 3).

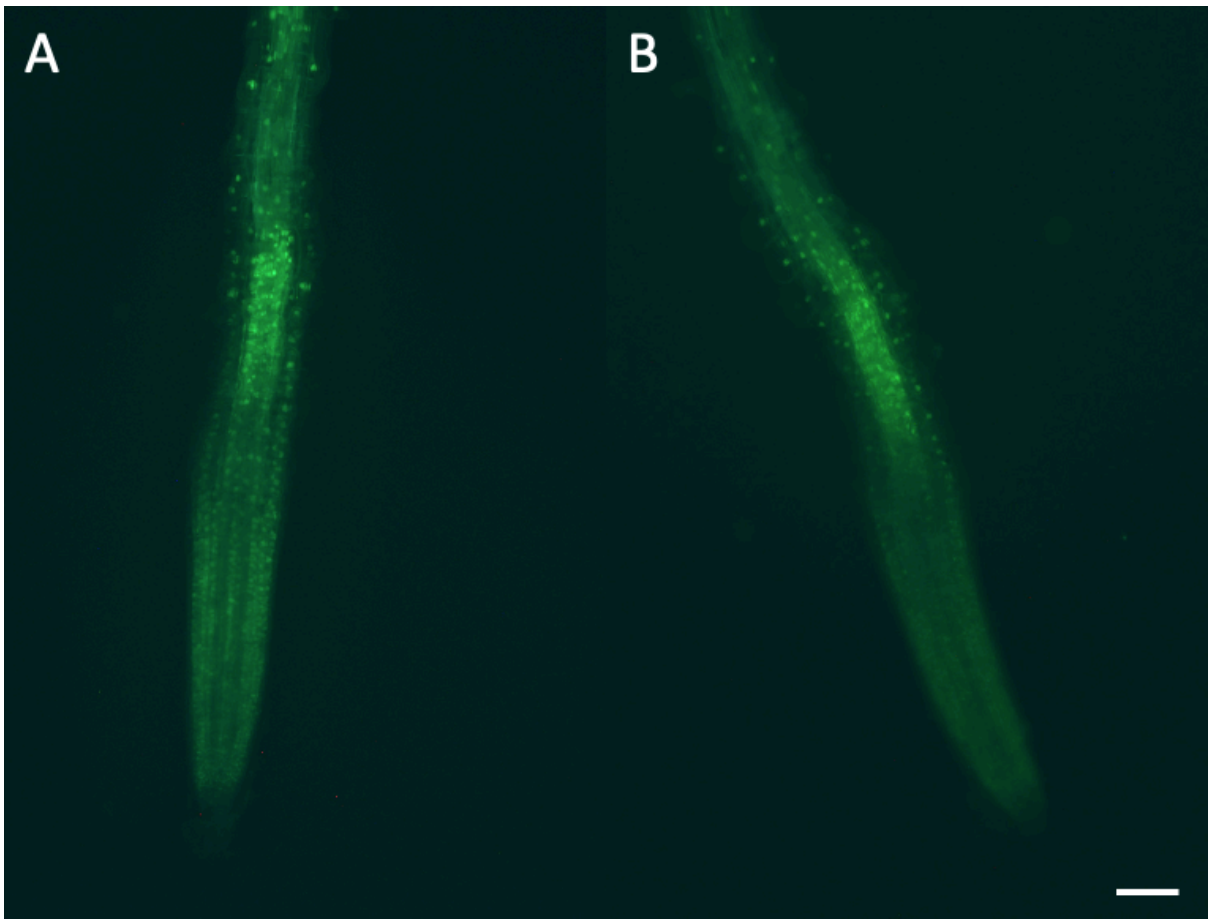


Figure 3.4 6 day old JAZ10::YFPx Col-0 (A) and *the1-4* (B) seedlings after 8 h isoxaben (ISX) MS treatment.

Comparison of JAZ10::YFP signal in Col-0 and *the1-4* roots during 8 h ISX MS treatment. Scale bar = 100µm (bottom right).

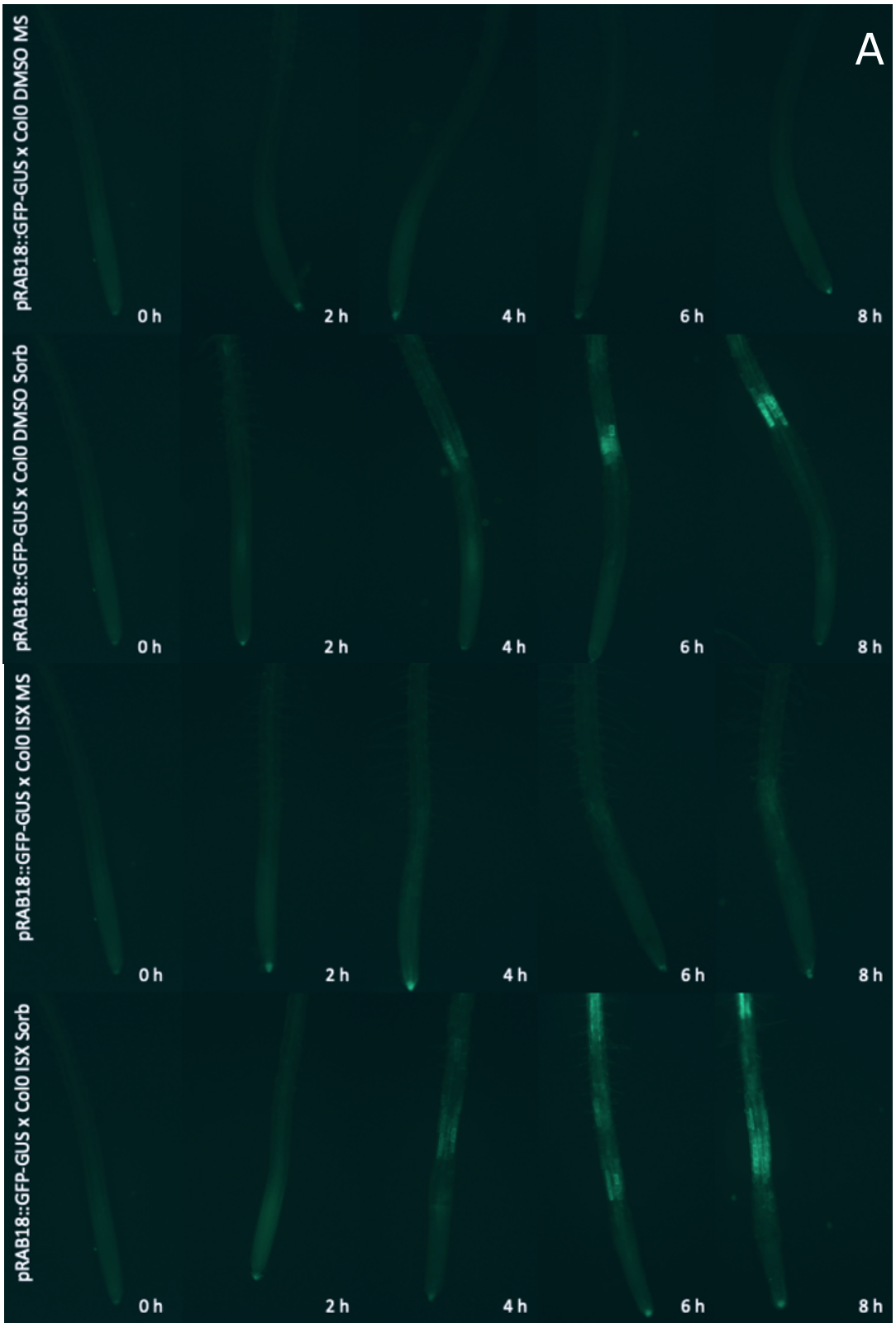
3.3 ABA

Fig. 3.5A, B, and C all show similar trends of ABA signal being high at later timepoints under sorbitol treatment (both with DMSO and ISX) with low signal levels seen at earlier timepoints and with non-sorbitol treatments. This trend is repeated in Fig. 3.6. However, the increase in signal area follows a slower progression, starting at earlier timepoints in Fig. 3.6 B (DMSO sorbitol treatment) compared to Fig. 3.6 D (ISX sorbitol treatment) where the signal appears later.

In order to better understand the qualitative effects observed in Fig. 3.5, imaging data was used to quantify pRAB18::GFP-GUS signal in seedlings exposed to the different treatments and being homozygous for *the1-1* or *the1-4*. Fig. 3.6 summarizes the results of this work. Next to no fluorescent area was detected in mock or ISX MS-treated seedlings (Fig. 3.6 A and C). Fig. 3.6 B summarizes data from DMSO sorbitol-treated seedlings where the area of fluorescence steadily increases in Col-0, *the1-1*, and *the1-4* root tips over time. Fig. 3.6 D summarizes data from ISX sorbitol-treated seedlings where the area of fluorescence steadily increases in Col-0, *the1-1*, and *the1-4* root tips over time but at a later timepoint than that seen in Fig. 3.6 B.

The only significant difference found during sorbitol treatment was between Col-0 and *the1-1* at the 4 h timepoint ($p=0.048$). Significant differences were found between ISX MS treated *the1-4* and Col-0 ($p=0.011$) and *the1-4* and *the1-1* ($p=0.022$) seedlings at the 6 h timepoint.

Fig. 3.7 shows a comparison of locations of pRAB18::GFP-GUS signal in the root treated with DMSO sorbitol or ISX sorbitol at 4, 6, and 8 h timepoints. Only *the1-4* roots were selected for this figure as the data from Fig. 3.6 suggested no highly significant differences between pRAB18 signals in Col-0, *the1-1,* and *the1-4*.



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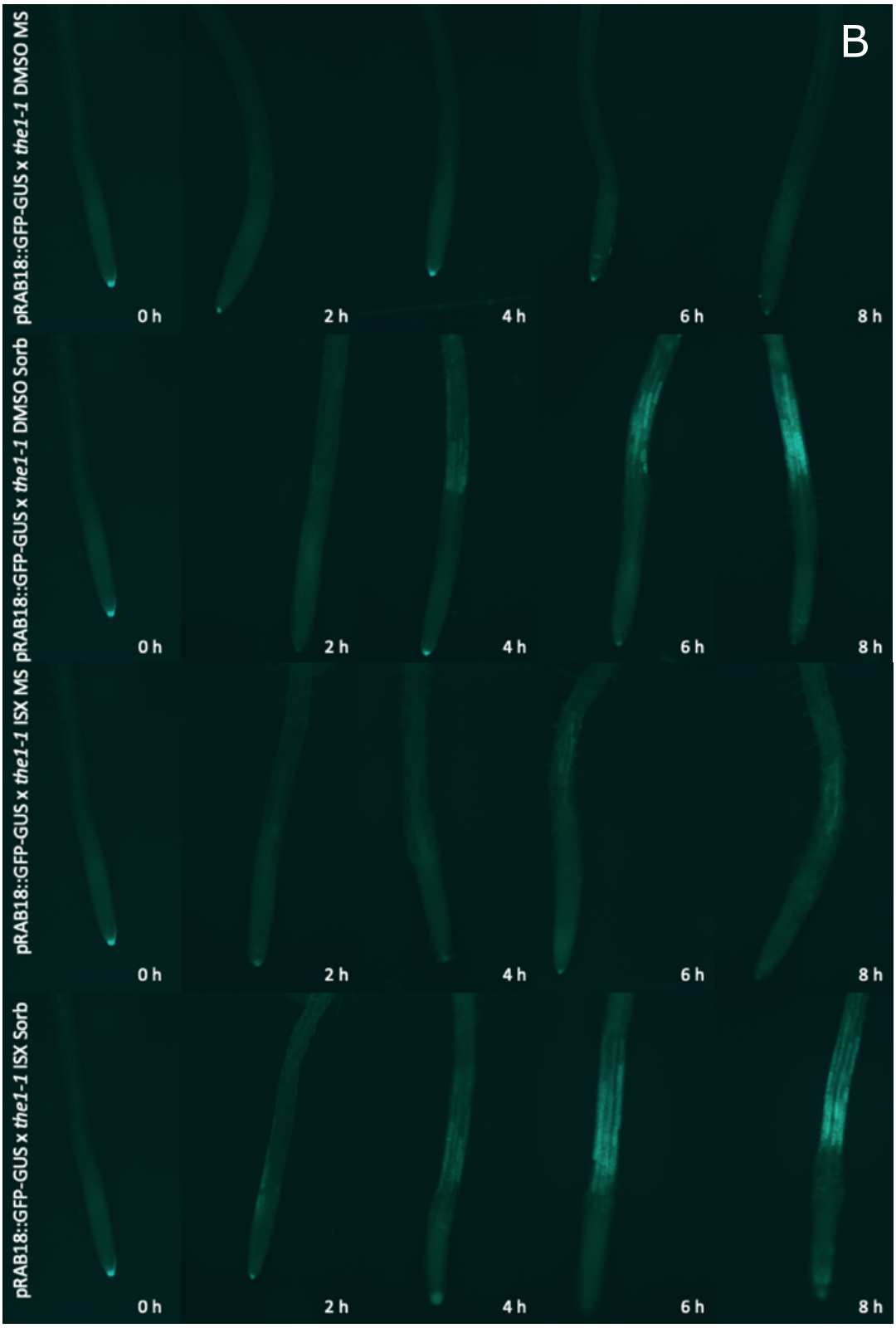

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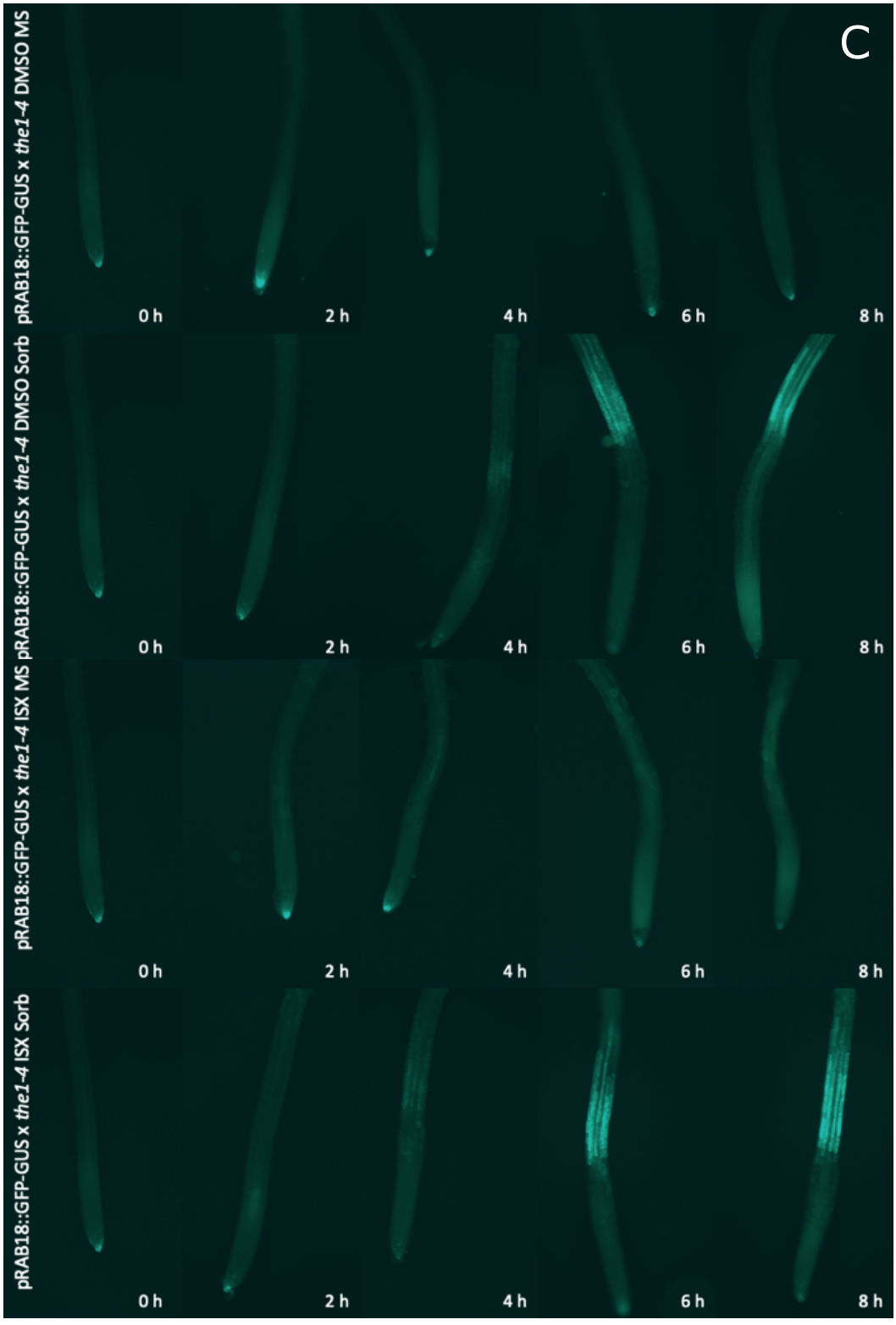


Figure 3.5 6 day old pRAB18::GFP-GUS crosses with Col-0 (A), *the1-1* (B), and *the1-4* (C) seedlings.

Representative images of root tips treated with DMSO Murashige and Skoog (MS), isoxaben (ISX) MS, DMSO sorbitol, and ISX sorbitol at 0, 2, 4, 6, and 8 h timepoints.

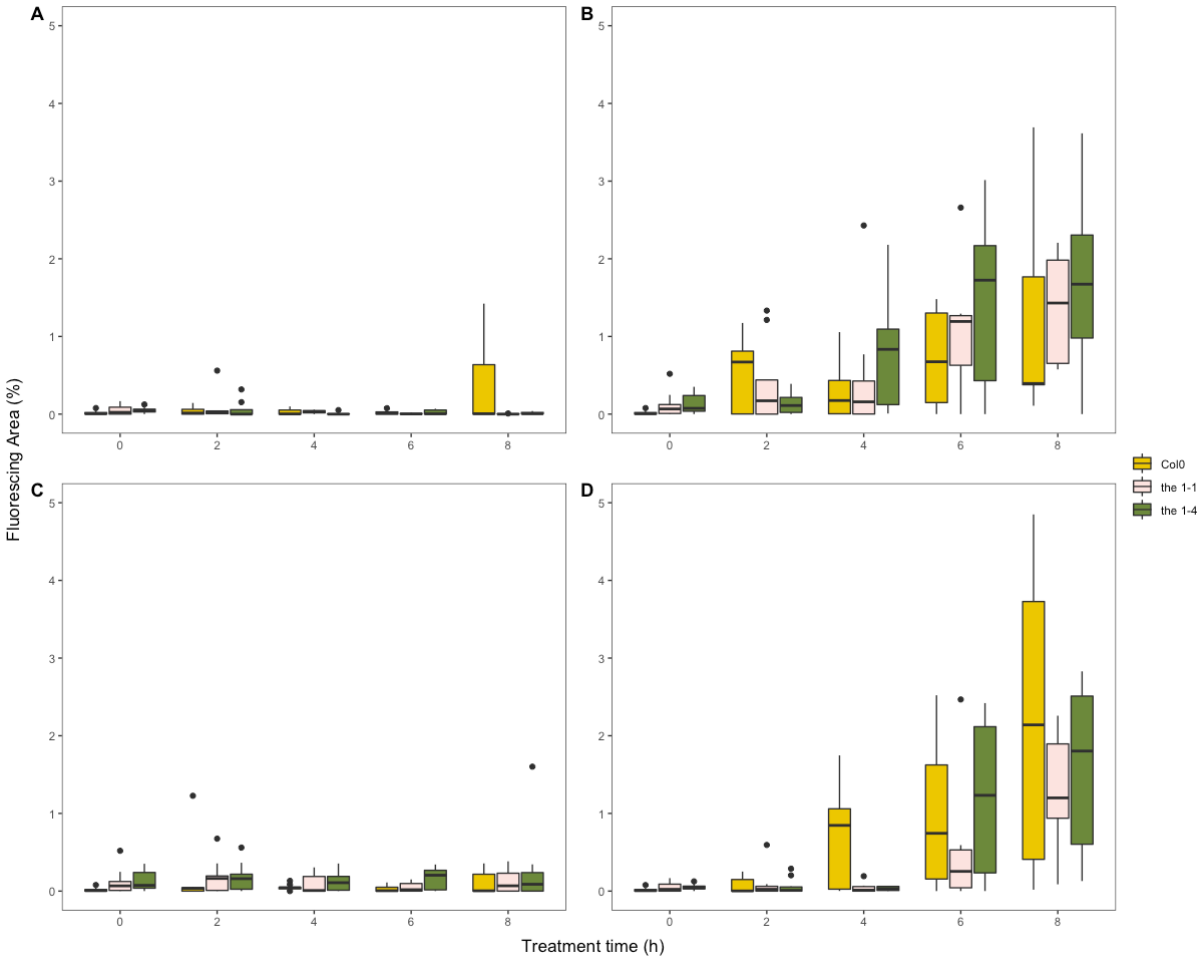


Figure 3.6 pRAB18::GFP-GUS #69 x *the1-1*, *the1-4*, Col-0 fluorescence area above threshold 112, treated with DMSO Murashige and Skoog (MS) (A), DMSO sorbitol (B), isoxaben (ISX) MS (C) and ISX sorbitol (D) at 0, 2, 4, 6 and 8 hour timepoints.

X-axis shows time in hours, Y-axes fluorescence area in %. Floating points on graphs show outliers more than 1.5x the interquartile range outside the quartile boundaries. For each time point and genotype 5 or more seedlings were imaged between at least 2 replicates (individual percent area data in Appendix. 3).

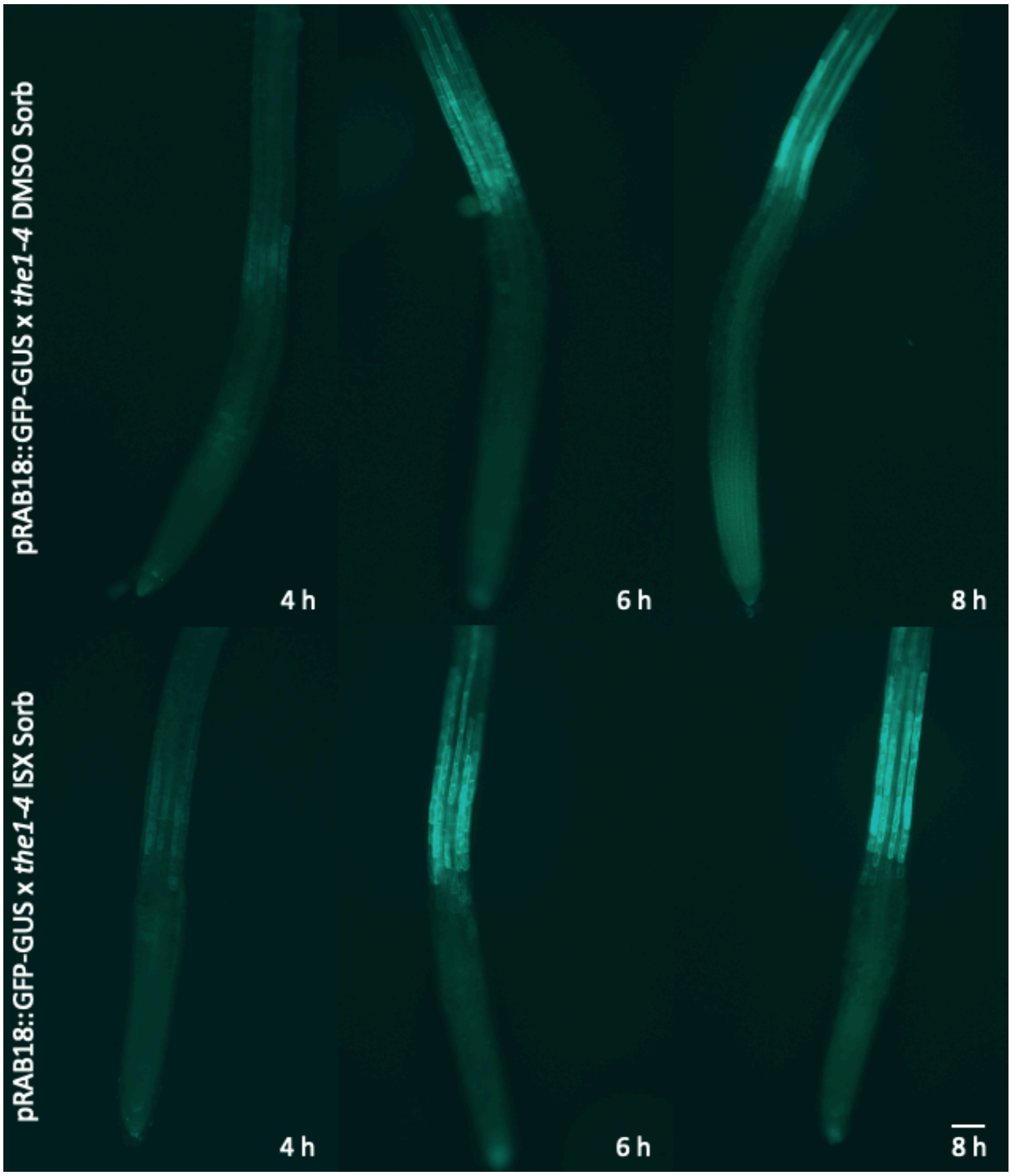


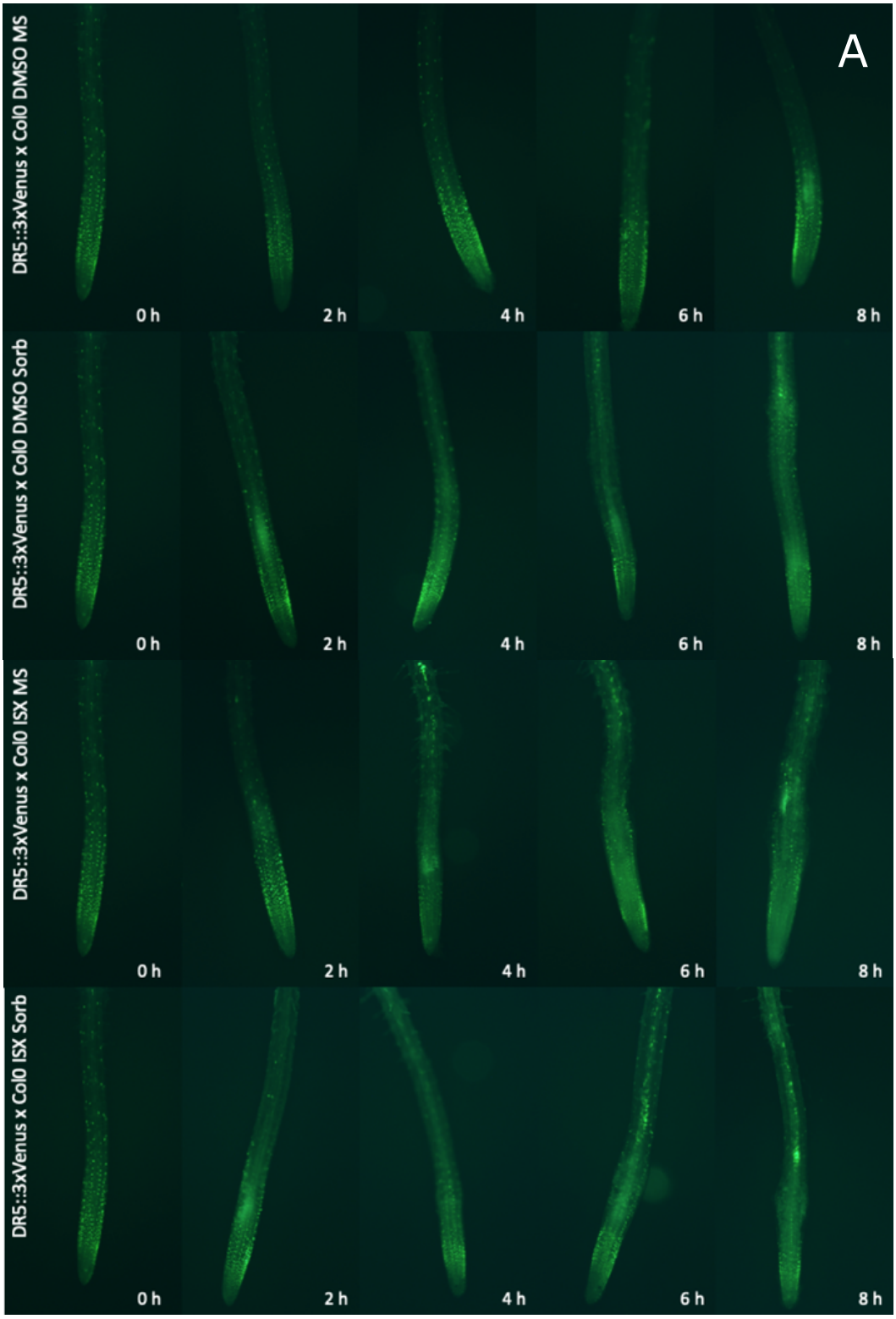
Figure 3.7 6 day old pRAB18::GFP-GUS*x the1-4* seedlings.

Comparison between pRAB18::GFP-GUS signal in roots during DMSO sorbitol and isoxaben (ISX) sorbitol treatment. Scale bar = 100μm (bottom right).

3.4 Auxin

in figure 3.8 B and C *the1*-1 and *the1-4* are respectively depicted, and the DR5::3xVenus signal levels are indistinguishable from each other. Col-0 (Fig. 3.8 A) however shows a marked difference in the area surrounding the root apical meristem, the Col-0 roots do not show the same strong fluorescence signal in that location. Fig. 3.10 shows this striking difference in greater relief and gives a magnified view of the cells involved.

In order to better understand the qualitative effects observed in Fig. 3.8, imaging data was used to quantify DR5::3xVenus signal in seedlings exposed to the different treatments and being homozygous for *the1-1* or *the1-4*. Figure 3.9 summarizes the results of this work. Fig. 3.9 shows no specific trends between either mutants and wild type although, at later timepoints the interquartile ranges increase for all treatments of *the1-1* and *the1-4* seedlings but still maintain a relatively similar means. There is however a significant difference between Col-0 and *the1-1* at the 2 h timepoint of both sorbitol treatments ($p= 0.0000001$ and $p= 0.028$ with DMSO and ISX, respectively) and Col-0 and *the1-4* at the 2 h timepoint of the DMSO sorbitol treatment ($p= 0.0000004$). At the 2 h timepoint for ISX sorbitol treatment the Col-0 and *the1-1* seedlings were also shown to be statistically different ($p= 0.028$) at the 2 h timepoint.



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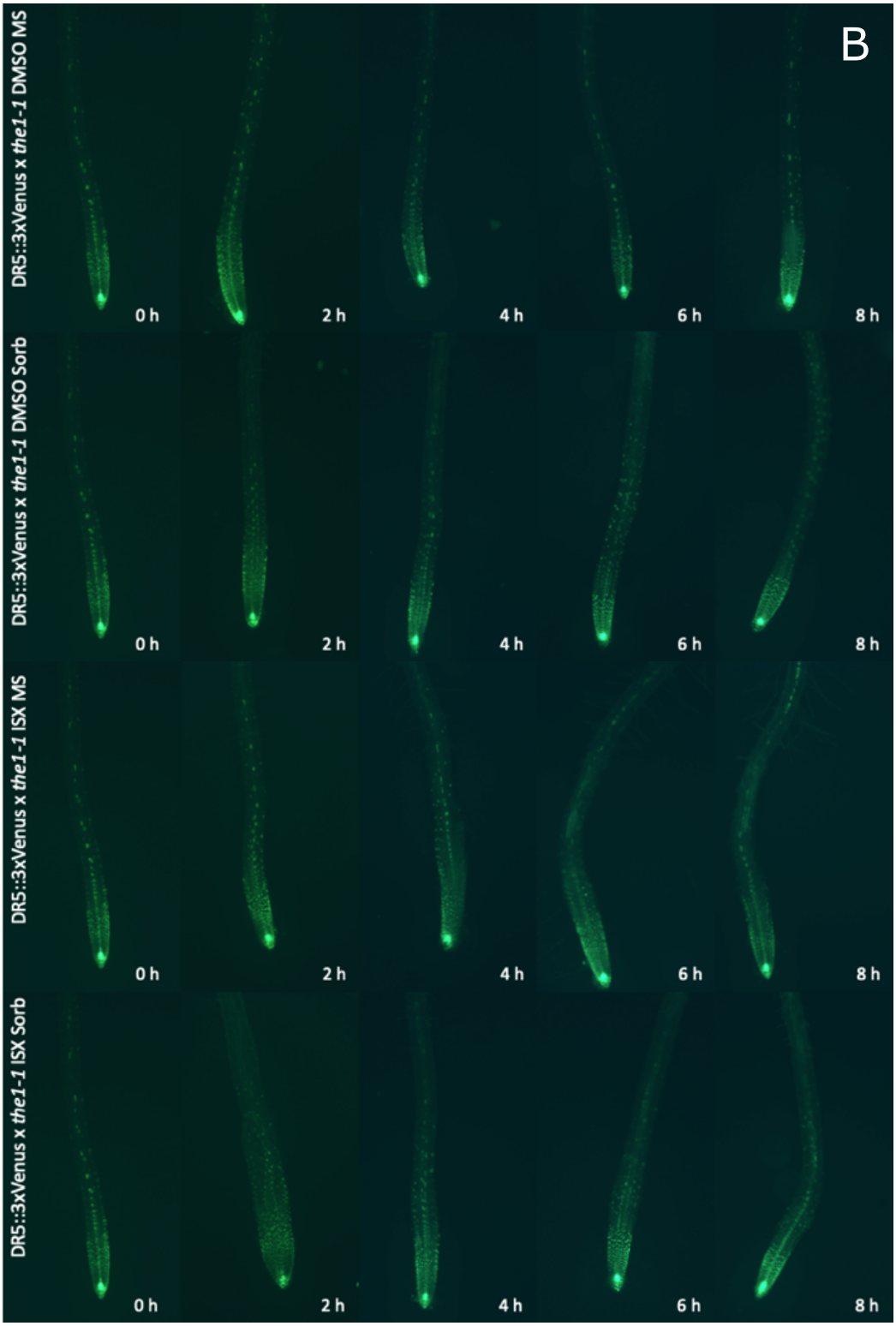

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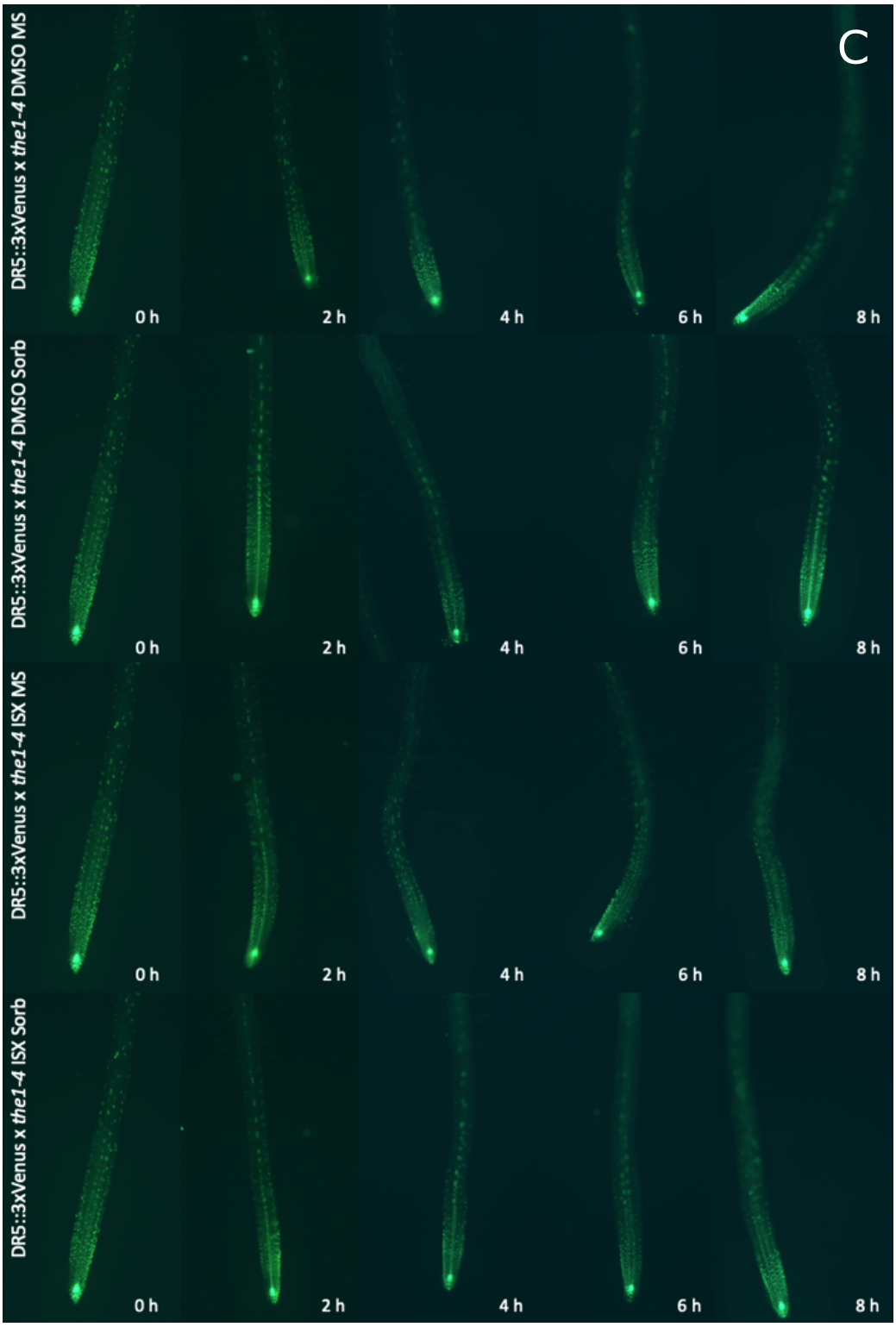

Figure 3.8 6 day old DR5::3xVenus crosses with Col-0 (A), *the1-1* (B), and *the1-4* (C) seedlings.

Representative images of root tips treated with DMSO Murashige and Skoog (MS), isoxaben (ISX) MS, DMSO sorbitol, and ISX sorbitol at 0, 2, 4, 6, and 8 h timepoints.

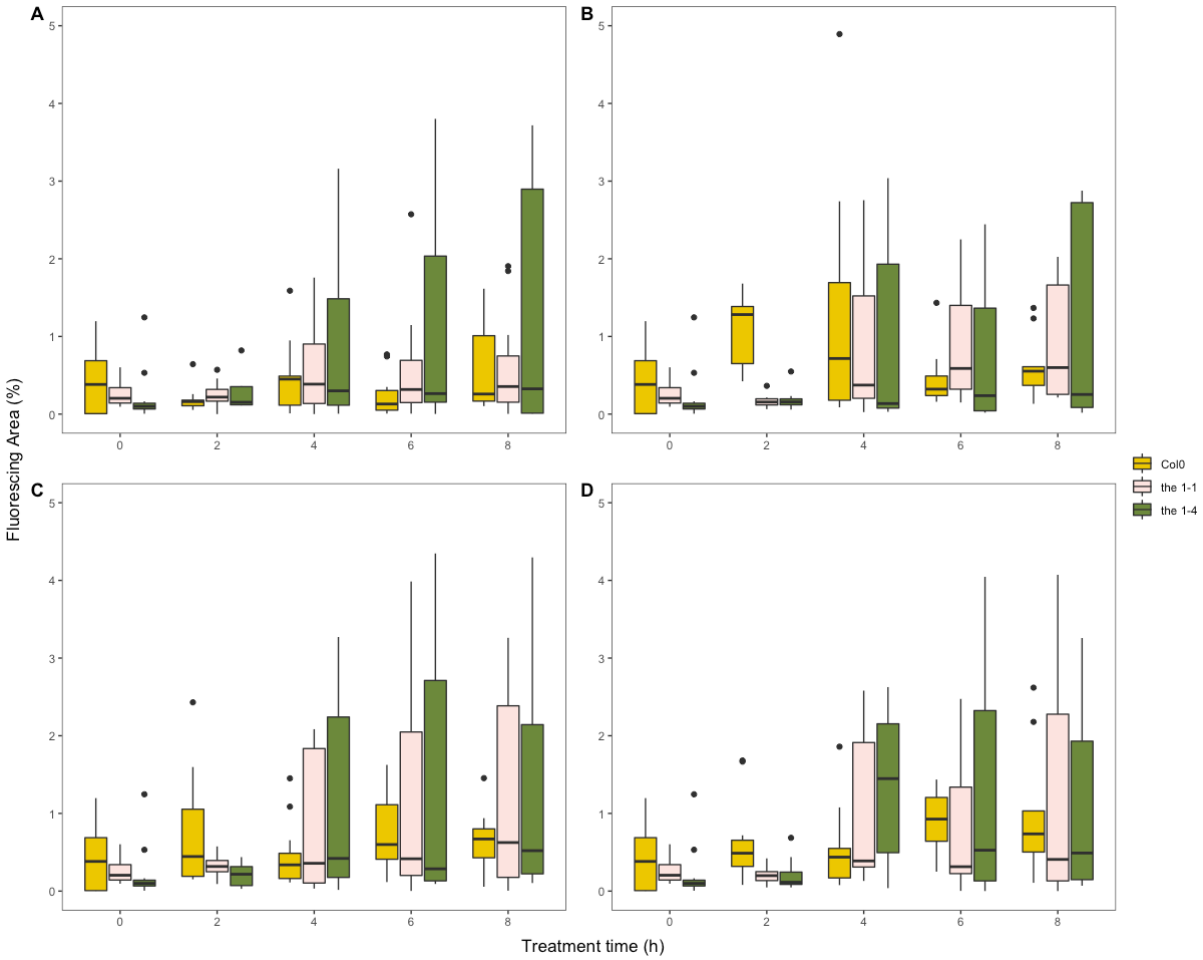

Figure 3.9 DR5::3xVenus x *the1-1*, *the1-4*, Col-0 fluorescence area above threshold 110, treated with DMSO Murashige and Skoog (MS) (A), DMSO sorbitol (B), isoxaben (ISX) MS (C) and ISX sorbitol (D) at 0, 2, 4, 6 and 8 hour timepoints.

X-axis shows time in hours, Y-axes fluorescence area in %. Floating points on graphs show outliers more than 1.5x the interquartile range outside the quartile boundaries. For each time point and genotype 7 or more seedlings were imaged between 3 replicates (individual percent area data in Appendix. 3).

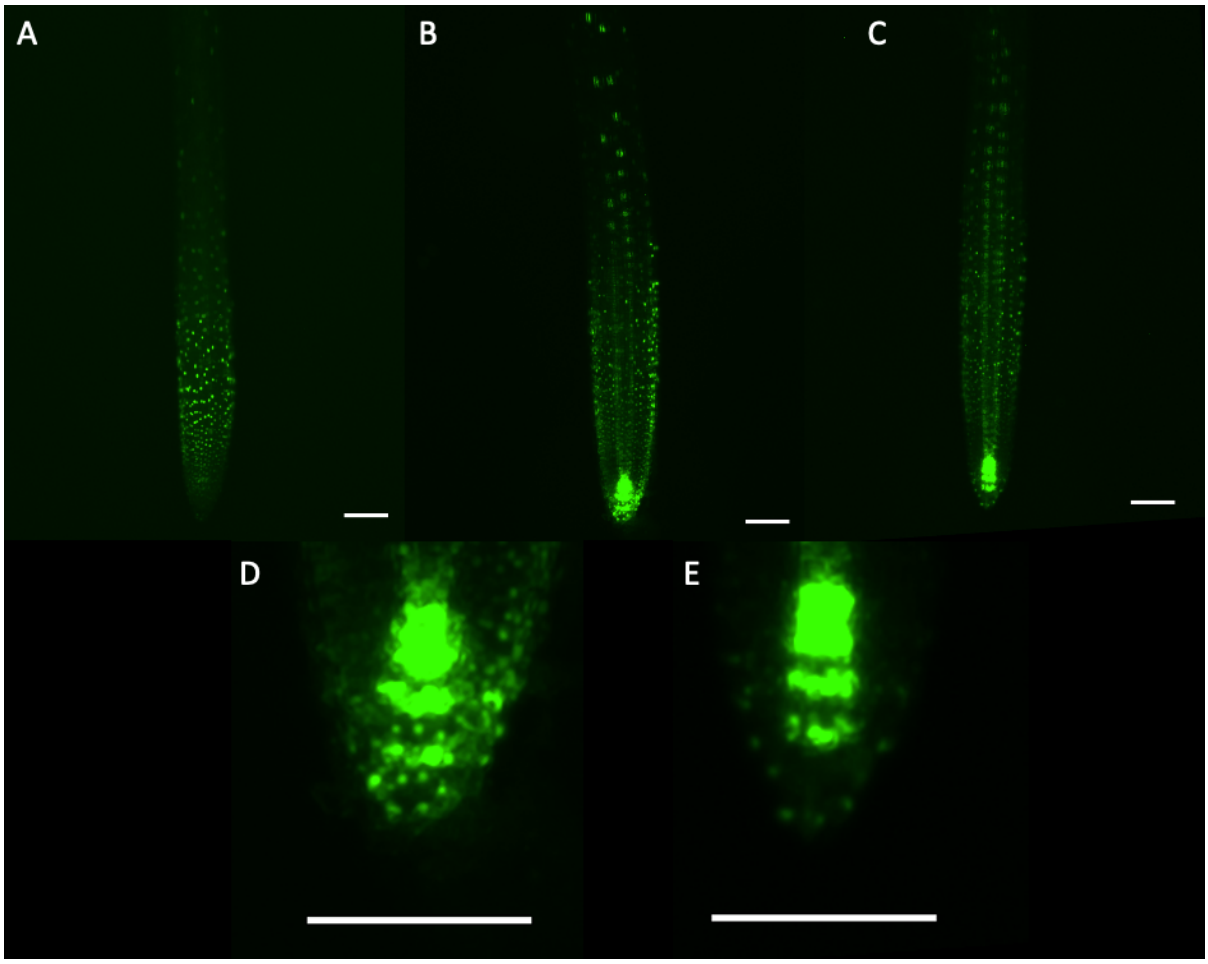

Figure 3.10 6 day old DR5::3xVenus x Col-0 (A), *the1-1* (B and D), and *the1-4* (C and E) seedling root tips.

All treated with 0.1% DMSO in Murashige and Skoog (MS), 0 h. All scale bars = 100 μm

4 Discussion

4.1 Why were these experiments performed?

Previously there has been a lot of evidence that phytohormones levels change in response to CWD and several proteins were identified, which seem to be involved in these processes (Yu *et al.,* 2012; Denness, *et al*., 2015; Chen, *et al.,* 2016; Engelsdorf, *et al*., 2018). However, no data has been presented on what effect *THE1* mutants had on cell/tissue specific locations only whole seedling hormone mass data has been shown. This is what led to asking questions: What role does *A. thaliana* THE1 play in the modulation of JA, ABA, and auxin responses induced by plant CWD? And what do these alterations to phytohormone concentrations look like on the cellular level? To answer these questions, crosses of phytohormone induced protein-reporter constructs and *THE1* mutants had to be created and imaged at different timepoints under the effects of CWD. Then this data was analysed both for cell specific effects and signal intensity throughout the meristematic and elongation zones.

4.2 Jasmonic Acid

The mechanism by which JAZ10 acts is well understood. It involves a feedback loop that ensures low expression of JAZ10 due to a JAZ repressor interacting with MYC transcription factors while JA concentrations are low (Moreno, *et al.*, 2013). With increasing concentrations of JA, the repressors bound to the JAZ10 promotors are broken down through a proteasome-mediated process and expression increases, which also leads to desensitisation of cells to JA (Chini, *et al.*, 2007, Chung and Howe, 2009, Moreno, *et al.*, 2013). The obvious consequence being that changes in JAZ10 expression can be delayed compared to changes in JA production caused by CWD. This can be seen when comparing the JAZ10 reporter data in Fig. 3.2 A with changes reported in JA levels reported before (Denness *et al.*, 2011). In this study a change in JAZ10 expression was not detected before the 6 h timepoint whereas a slight change in JA levels was seen at the 4 h timepoint that study. It has been shown however that JAZ10 is a primary response gene (Moreno, *et al.*, 2013) thus, this delayed response will not too be great. Whilst this does mean any data gained through this reporter line will show JA increases in delayed manner, the data allows conclusions about the speed of the responses induced by JA, the location of the responses induced in the seedlings and how manipulating the CWI signalling process using gain/loss of function alleles mutant affects JA-controlled responses.

The location of the majority of this signal, induced by ISX, appears to be in the cortex of the early elongation zone (Fig. 3.7). Cells in this area only have primary cell and are rapidly elongating and thus this area would be most affected by cell wall synthesis inhibition as *CESA3* and *CESA6* mutants confer resistance to ISX and are proteins that create synthesise cellulose for the primary cell wall (Shim, *et al.*, 2018).

Interestingly, the increased JA response in *the1-4* root tips over Col-0 that was shown similarly in Engelsdorf, *et al*. (2018) was not observed using this method. The JAZ10 signal area data suggests that there is an almost identical level of response as the wild type to ISX MS treatment. However, the JAZ10 signal in *the1-4* root tips appears earlier

than in Col-0 root tips. This suggests that JA production starts earlier in roots of *the1-4* seedlings, which was not detectable in Engelsdorf, *et al*. (2018) as they a very small increase in JA in the root tip is hard to detect at the whole seedling level. In this context it is also conceivable that a more rapid increase in JA levels is brought on by *the1-4* sensing a disturbed CW-PM relationship (Engelsdorf, *et al*., 2018) causes a greater immediate response and enhanced expression of JAZ10. Possibly, the threshold by which the *the1-4* protein senses a disturbed CW-PM is lower than wild type THE1, and thus this response is seen earlier.

The response to ISX treatment in *the1-1* was very similar to that seen in the DMSO MS treated seedlings, essentially no response. This reduced response to ISX supports data that has been previously published (Engelsdorf, *et al*., 2018). What this suggests is that THE1 is directly responsible for the JA response in relation to CWD, as one would assume a smaller but still noticeable response in the presence of *the1-1* if there are parallel pathways for JA induction. This however was not the case, there was no recordable response in this part of the root at these microscope settings of JAZ10. This is further supported by data on lignin accumulation in *the1-1* (Engelsdorf, *et al*., 2018) and the cycle that ties JA production to lignin production (Denness *et al.*, 2011).

4.3 Abscisic Acid

Expression of Responsive To Aba 18 (*RAB18)* is induced by changes in ABA levels (Lång and Palva, 1992). RAB18-GFP levels were shown in Lång and Palva, 1992 to lag ABA levels, but did result in respectively similar responses. However, ABA induction of *RAB18* has been shown to be greatly reduced during immune signalling with the small molecule (5-(3,4-dichlorophenyl)furan-2-yl)-piperidin-1-ylmethanethione (DFPM) (Kim, *et al.*, 2011). Promotor reporter constructs of RAB18 (pRAB18) have been shown to act similarly to ABA as RAB18 reporter (Waadt, *et al.*, 2015). In the same paper pRAB18::GFP was purported to respond more slowly to stimuli that induce ABA than ABA, due to the time it takes to induce a fully folded protein. Therefore pRAB18::GFP-GUS is most likely going to follow similar rules as pRAB18::GFP does.

Fig. 3.7. shows that the pRAB18::GFP-GUS signal is similar in DMSO sorbitol and ISX sorbitol treated seedling roots with respect to location in in the early elongation zone, timing and signal intensity. As time progresses this signal intensifies and expands along the root with both treatments, what is interesting is that with sorbitol the 'signal front' moves up the root as well whereas in the ISX sorbitol treated seedlings it stays in the same place. It appears as though the signal is initiated in the early elongation zone and spreads up the root. Over time as more cells enter the elongation zone and elongate ahead of this signal front, pRAB18::GFP-GUS is not being stimulated in these new elongation zone cells. What could cause this moving front is the cells that are entering the elongation zone after may have responded to this water stress using a different molecular pathway that does not induce pRAB18. What seems to be happening in the ISX sorbitol treatment is as ISX inhibits elongation and induces swelling, this would hinder cells entering the elongation zone from elongating and thus the 'signal front' would stay in the same place. One difference that can be seen between Col-0 root tips and *the1-1* and *the1-4* root tips, is the area of high intensity seems to be compact in the elongation zones of DMSO sorbitol treated Col-0 seedlings and more spread out in the elongation zones of ISX sorbitol treated Col-0 seedlings (Fig. 3.5 A). This pattern can be interpreted from the precent area data (Fig. 3.6 B and D), but robust statistical differences were not found. This visual difference could be caused by altered pH in the apoplast brought about

by differing interactions between RALF34 and THE1 (Gonneau, *et al.*, 2018; Jourquin, *et al*., 2020) causing the movement of ABA through the apoplast under osmotic stress to be different (Geilfus, 2017).

Even though FER has been shown to be deeply involved in ABA signalling (Yu, *et al*., 2012; Chen, *et al.* 2016), from this data it appears as though the closely related protein, THE1 may have some affect on pRAB18::GFP-GUS signal area, and signal intensities within the area of signal. Therefore, it could be hypothesised that THE1 is involved in ABA signalling of cell wall damage, but it is equally possible that altered pH alkalisation in the apoplast is the indirect cause between *THE1* mutants and pRAB18 signal.

4.4 Auxin

DR5 based reporter lines have has been shown by many papers to be a highly reliable method of indicating changes in auxin responses, which implicitly mean changes in auxin concentration (Blilou, *et al.,* 2005; Grieneisen, *et al.,* 2007; Chen, *et al.,* 2013). There has however been some speculation that brassinosteroids can induce DR5::GUS reporter activity (Nakamura, *et al.,* 2003).

THESEUS1 does not seem to affect the production of auxin in the majority of the root cells when looking at the elongation zone (EZ), proximal meristem, and distal meristem as a whole under these conditions. The only region exhibiting stronger DR5 signal was observed was in the root apical meristem (RAM) and the central root cap (Fig. 3.10 B,C,D, and E). The strong signal in the mock-treated *the1-1* and *the1-4* root tips appears to be limited to the stele initials, quiescent centre (QC), cortex/endodermal initial, columella initial and columella cells. These form, with exception of the columella cells, the majority of the RAM. Whilst in the Col-0 root tips only the QC exhibited detectable auxin signal at a much lower signal intensity (Fig. 3.10 A). It is well known that auxin plays important roles in the maintenance of the RAM. Auxin mediates WUSCHEL-RELATED HOMEOBOX 5 (WOX5) signalling through MONOPTEROS (Sarkar, et al., 2007) with high auxin levels inducing expression of PLETHORA (PLT) transcription factors, which control expression of several PIN efflux carriers (Blilou, *et al*., 2005). PIN efflux carriers in turn promote the removal of auxin from the RAM to maintain tightly controlled auxin concentrations throughout the RAM. It has been demonstrated RALF34 is necessary for early cell division in lateral root primordia (Murphy, *et al*., 2016). THE1-RALF34 was further shown to have some controlling effects upon lateral root primordia density (Gonneau, *et al*., 2018). Interestingly Gonneau, *et al*., 2018 also showed that *the1-1* and *the1-4* have similar effects on increasing density of lateral root primordia, this change in root structure was theorised to be due to the altered alkalinisation of the apoplast by THE1-RALF34. Auxin action has been tied to the control of the pH of the apoplast (Barbez, *et al*., 2017). The THE1 mutants have altered interactions with RALF34 and thus cause altered alkalinisation of the apoplast, which consequently could modify the local pH (Gonneau, *et al.*, 2018; Jourquin, *et al*., 2020) thus disturbing the flow of auxin through the apoplast. These considerations could explain why such high levels of DR5 expression are detected in the RAMs of *the1-1* and *the1-4* seedling roots. Auxin efflux through PIN carriers out of these cells may have been disturbed by changes in apoplastic pH, brought about by altered interaction between RALF34 and THE1.

4.5 What was found?

This data, in context, appears to show that THE1 has both direct and indirect downstream effects on the studied phytohormones. JA response to CWD was shown to

decrease under the *the1-1* mutant but not shown to increase under the *the1-4* mutant. The locations of pRAB18 signalling in Col-0 differing from *the1-1* and *the1-4* could suggest THE1 plays a role in sensing CW-PM perturbations during osmotic stress, but it is equally possible that this difference was caused by changes in apoplastic pH brought about by altered RALF34 THE1 interactions. These same altered interactions are likely to have caused the increased DR5 signal in the stele initials, QC, cortex/endodermal initial, columella initial and columella cells.

5 Conclusion

The plant cell wall has many uses for humanity, from textiles to biofuels it provides renewable sources of to create these from. Plants use atmospheric carbon to produce the polymers in cell walls that we later refine. This is in stark contrast to how most energy and synthetic polymers are created, oil, gas, and coal, these hail from stored carbon from millions of years ago when the atmospheric makeup of the planet was very different. An atmosphere that would be hostile to us. So, it is in humanities best interest to focus on the production of fuel and textiles from plants. But the optimum way to do this would be through genetically modified plants, to, for instance, increase cellulose production in the plant cell wall. But to do this we must understand the plant CWIM mechanism.

This work sheds light on some possible areas of interest for further study. The understanding of the mediation of responses of phytohormones to CWD is of vital importance to the complete understanding of the CWIM mechanism.

The data above showed that the JA response to CWD decreases under the *the1-1* mutant but was not shown to increase under the *the1-4* mutant. To further uncover what roles THE1 plays in JA signalling in response to CWD, I would firstly perform several more replicates of this experiment. Then perform a similar experiment but involving Driselase instead, to observe any differing reaction to biotically induced CWD. I would also preform similar experiments involving *FER* gain of function and loss of function mutants crossed with JAZ10::YFP. This would help fit THE1 and FER5 together into the previously available FER data and allow for more knowledge on cell localised effects.

The ABA reporter data pRAB18 showed that signalling in Col-0 differed from *the1-1* and *the1-4.* This could mean that THE1 plays a role in sensing CW-PM disturbances, at least for sorbitol. Or these differences were caused by changes in apoplastic pH brought about by altered RALF34 THE1 interactions. To further uncover what roles THE1 plays in ABA signalling in response to CWD, I would firstly perform several more replicates of this experiment to increase the resolution of the differences seen, then I would perform replicates of the same experiments at the 4, 6, and 8 h timepoints using a laser scanning confocal microscope to increase optical resolution and to view how the appearance of the cell wall changes between cells with no pRAB18 signal to cells with high pRAB18 signal.

Whilst the auxin data is interesting the context suggests that these observed differences in the stele initials, QC, cortex/endodermal initial, columella initial and columella cells of DR5::3xVenus signal are likely to have been caused by changes in apoplastic pH brought about by altered RALF34 THE1 interactions. Therefore, it can be suggested that this is only an indirect effect in this particular location and that THE1 does not play a role in auxin signalling in response to CWD. To confirm this, future experiments would have to be conducted to collect auxin mass data in response to CWD, but if true it helps narrow the field of possible interactions in the CWIM mechanism. Not to mention that this could be a very interesting tool for future investigations of the RAM.

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Appendices

Appendix 1: Crossings and Genotyping

Appendix 2: FUJI code

Appendix 3: Percent are data

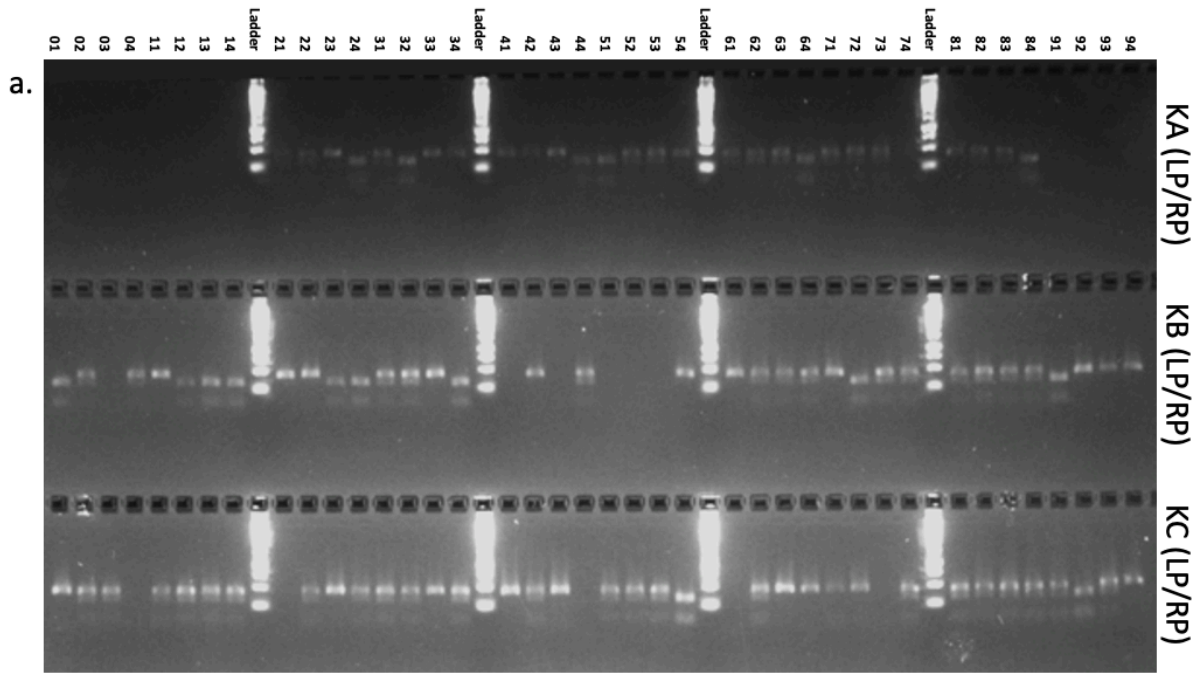
Appendix 1: Crossings and Genotyping

Crossing name Key

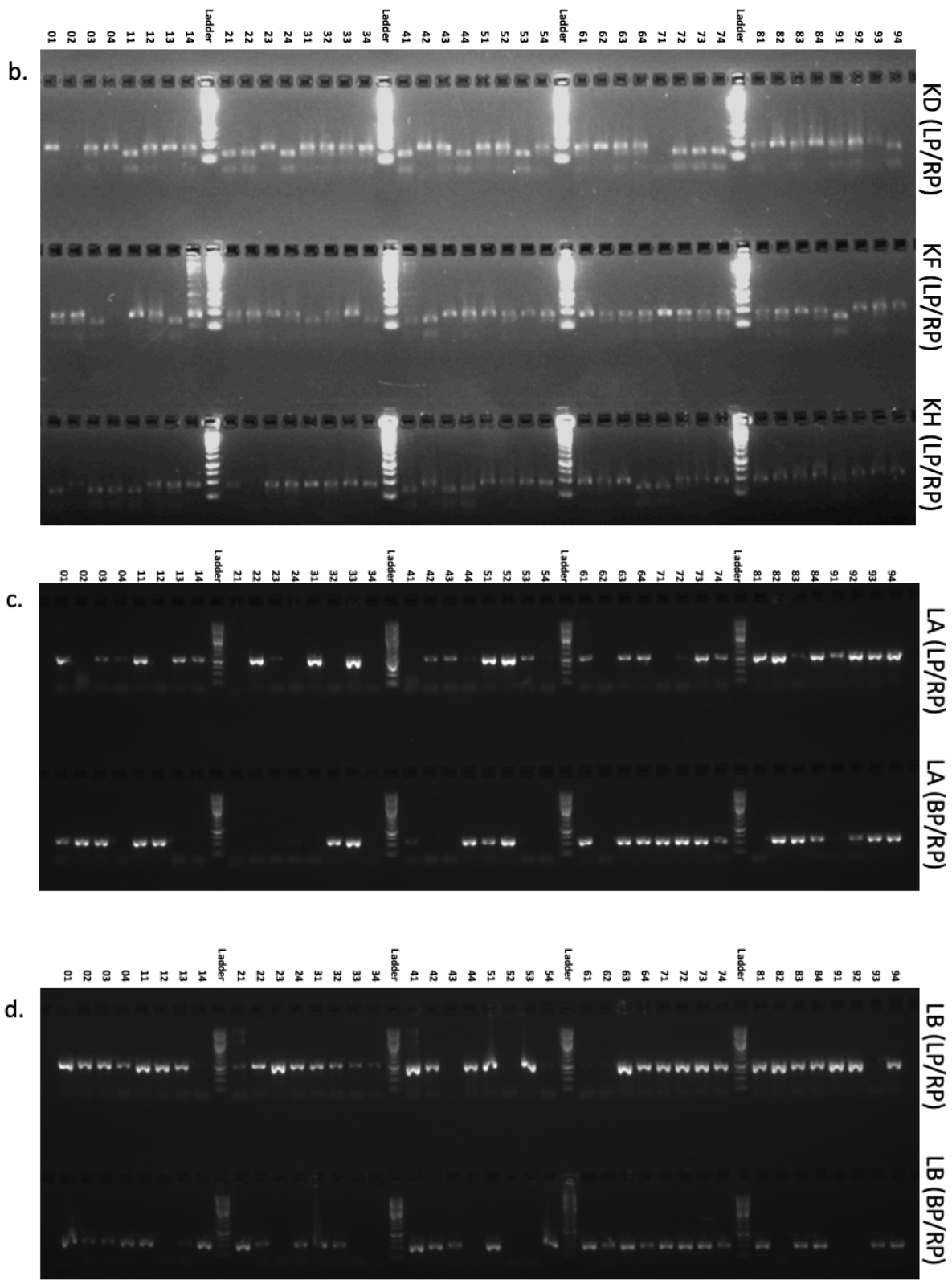
Appendix 1, Table 1: Crossing scheme and corresponding crossing identifier

		Mutant line	
		The 1-1	The 1-4
Reporter line	Jaz10::YFP	KA USED	LA USED
	Jaz10::GUS	KB COMPLETED (UNUSED)	LB FAILED
	pRAB18::GFP-GUS #67	KD COMPLETED (UNUSED)	LD COMPLETED (UNUSED)
	pRAB18::GFP-GUS #69	KF USED	LF USED
	TCSnew::GFP	KC COMPLETED (UNUSED)	LC COMPLETED (UNUSED)
	DR5::GUS	KG FAILED	LG STOPPED (F2)
	DR5new::3xVenus	KH USED	LH USED

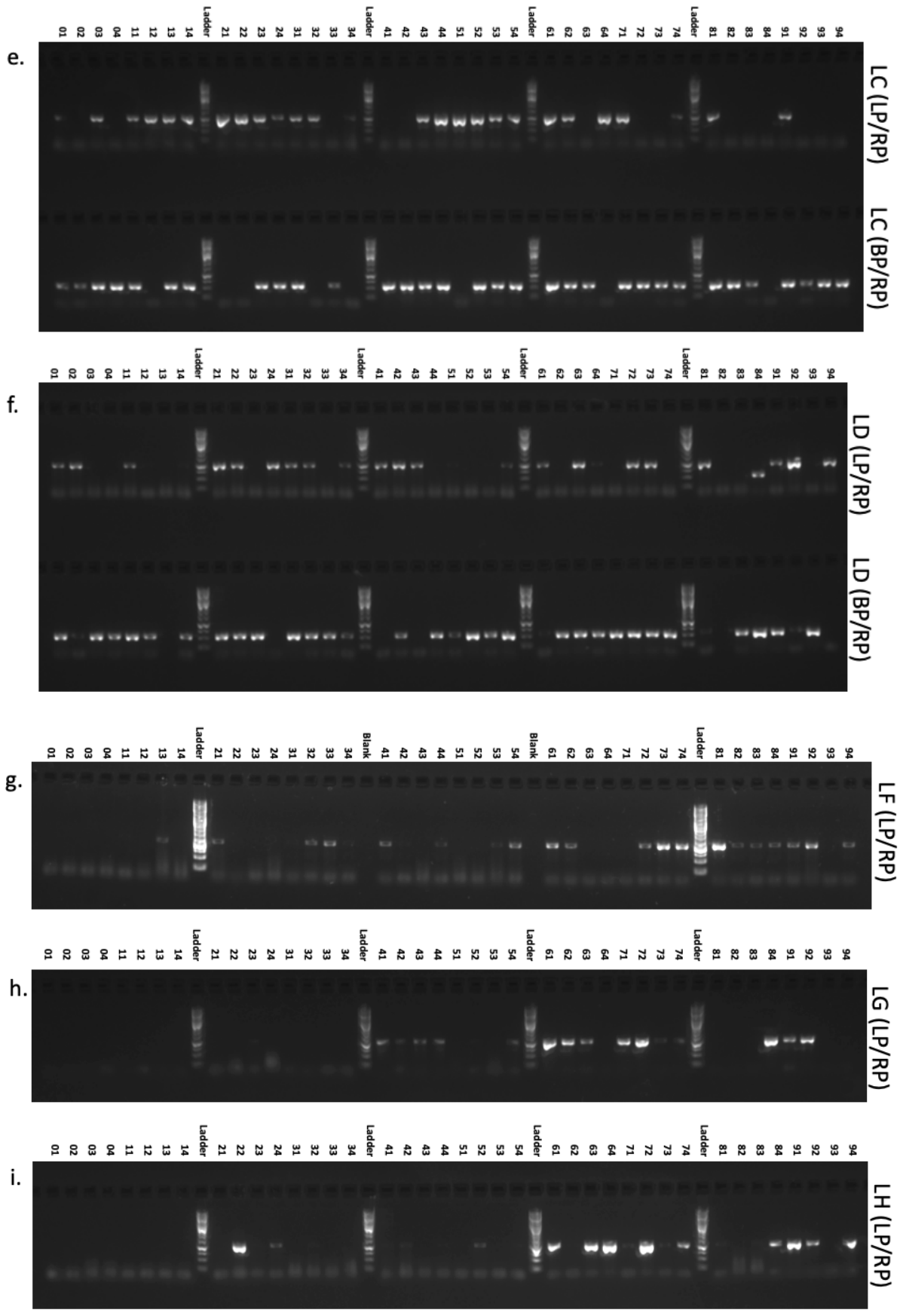
Electrophoresis data



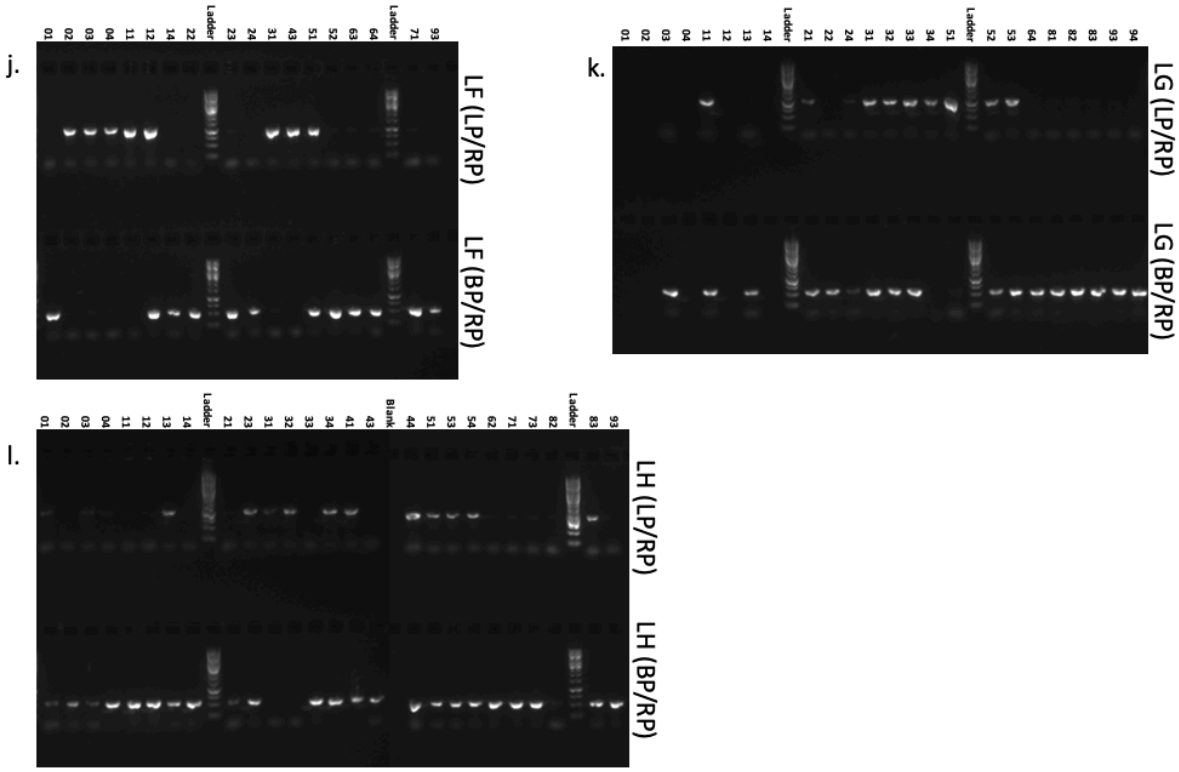
Appendix 1, figure 1. continued on next page



Appendix 1, figure 1. continued on next page



Appendix 1, figure 1. continued on next page



Appendix 1, figure 1: PCR and gel electrophoresis genotyping data.

a and b: *the1-1* post digestion gel images

c - f: *the1-4* crossing data, featuring both LP/RP and BP/RP PCR products

g - i: *the1-4* crossing data, featuring only LP/RP PCR products

j - l: *the1-4* crossing data, featuring both LP/RP and BP/RP PCR products not noted in g - i.

Appendix 2: FUJI code

```
setBatchMode(true);
dir1 = getDirectory("Choose Source Directory ");
list = getFileList(dir1);
for (k = 0; k<list.length; k++) {
        showProgress(k+1, list.length);
        open(dir1+list[k]);

        // open image as "Composite"
        title=getTitle();
        run("Split Channels");
        selectWindow(title + " (green)");
          setThreshold(LOWER THRESHOLD VALUE, 255);
                setOption("BlackBackground", false);
                run("Convert to Mask");
                run("Set Measurements...", "area_fraction limit redirect=None
decimal=3");
                run("Measure");
                setResult("image", k, title);
                updateResults();
        }
        for (i=0;i<3;i++){

    close();
  }
```

Appendix 3: Percent area data

ID	timepoint	percent	mutant	treatment	reporter
KFYFI01P010h.jpg	0	0,089	*the 1-1*	DMSO MS	ABA
KFYFI01P020h.jpg	0	0,167	*the 1-1*	DMSO MS	ABA
KFYFI01P030h.jpg	0	0,011	*the 1-1*	DMSO MS	ABA
KFYFI01P040h.jpg	0	0,09	*the 1-1*	DMSO MS	ABA
KFYFI01P010h.jpg	0	1,81E-04	*the 1-1*	DMSO MS	ABA
KFYFI01P020h.jpg	0	1,81E-04	*the 1-1*	DMSO MS	ABA
KFYFI01P030h.jpg	0	1,65E-04	*the 1-1*	DMSO MS	ABA
KFYFI01P040h.jpg	0	0,035	*the 1-1*	DMSO MS	ABA
KFDMYFI01P012h.jpg	2	0,56	*the 1-1*	DMSO MS	ABA
KFDMYFI01P022h.jpg	2	0,022	*the 1-1*	DMSO MS	ABA
KFDMYFI01P032h.jpg	2	0,046	*the 1-1*	DMSO MS	ABA
KFDMYFI01P012h.jpg	2	2,14E-04	*the 1-1*	DMSO MS	ABA
KFDMYFI01P022h.jpg	2	1,15E-04	*the 1-1*	DMSO MS	ABA
KFDMYFI01P032h.jpg	2	0,023	*the 1-1*	DMSO MS	ABA
KFDMYFI01P014h.jpg	4	0,033	*the 1-1*	DMSO MS	ABA
KFDMYFI01P024h.jpg	4	0,057	*the 1-1*	DMSO MS	ABA
KFDMYFI01P014h.jpg	4	1,48E-04	*the 1-1*	DMSO MS	ABA
KFDMYFI01P016h.jpg	6	0,006	*the 1-1*	DMSO MS	ABA
KFDMYFI01P026h.jpg	6	0,02	*the 1-1*	DMSO MS	ABA
KFDMYFI01P016h.jpg	6	1,48E-04	*the 1-1*	DMSO MS	ABA
KFDMYFI01P026h.jpg	6	1,15E-04	*the 1-1*	DMSO MS	ABA
KFDMYFI01P018h.jpg	8	2,14E-04	*the 1-1*	DMSO MS	ABA
KFDMYFI01P028h.jpg	8	0,003	*the 1-1*	DMSO MS	ABA
KFDMYFI01P038h.jpg	8	0,004	*the 1-1*	DMSO MS	ABA
KFDMYFI01P018h.jpg	8	1,65E-04	*the 1-1*	DMSO MS	ABA
KFDMYFI01P028h.jpg	8	1,65E-04	*the 1-1*	DMSO MS	ABA
KFDMYFI01P038h.jpg	8	1,81E-04	*the 1-1*	DMSO MS	ABA
KFDMYFI01P048h.jpg	8	0,009	*the 1-1*	DMSO MS	ABA

LFYFI01P010h.jpg	0	0,125	*the 1-4*	DMSO MS	ABA
LFYFI01P020h.jpg	0	0,096	*the 1-4*	DMSO MS	ABA
LFYFI01P010h.jpg	0	0,05	*the 1-4*	DMSO MS	ABA
LFYFI01P020h.jpg	0	0,03	*the 1-4*	DMSO MS	ABA
LFYFI01P030h.jpg	0	0,053	*the 1-4*	DMSO MS	ABA
LFYFI01P010h.jpg	0	1,98E-04	*the 1-4*	DMSO MS	ABA
LFYFI01P020h.jpg	0	0,022	*the 1-4*	DMSO MS	ABA
LFYFI01P030h.jpg	0	0,04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P012h.jpg	2	0,021	*the 1-4*	DMSO MS	ABA
LFDMYFI01P022h.jpg	2	0,318	*the 1-4*	DMSO MS	ABA
LFDMYFI01P032h.jpg	2	0,154	*the 1-4*	DMSO MS	ABA
LFDMYFI01P012h.jpg	2	1,48E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P022h.jpg	2	1,48E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P032h.jpg	2	1,81E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P042h.jpg	2	0,057	*the 1-4*	DMSO MS	ABA
LFDMYFI01P012h.jpg	2	1,81E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P022h.jpg	2	1,81E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P014h.jpg	4	0,052	*the 1-4*	DMSO MS	ABA
LFDMYFI01P024h.jpg	4	3,79E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P014h.jpg	4	1,65E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P024h.jpg	4	0,003	*the 1-4*	DMSO MS	ABA
LFDMYFI01P034h.jpg	4	3,95E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P016h.jpg	6	0,067	*the 1-4*	DMSO MS	ABA
LFDMYFI01P026h.jpg	6	0,07	*the 1-4*	DMSO MS	ABA
LFDMYFI01P016h.jpg	6	1,81E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P026h.jpg	6	0,009	*the 1-4*	DMSO MS	ABA
LFDMYFI01P036h.jpg	6	1,48E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P046h.jpg	6	1,32E-04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P018h.jpg	8	0,04	*the 1-4*	DMSO MS	ABA
LFDMYFI01P028h.jpg	8	0,022	*the 1-4*	DMSO MS	ABA
LFDMYFI01P038h.jpg	8	0,005	*the 1-4*	DMSO MS	ABA

LFDMYFI01P018h.jpg	8	0,004	*the 1-4*	DMSO MS	ABA
LFDMYFI01P028h.jpg	8	9,87E-05	*the 1-4*	DMSO MS	ABA
P69YFI01P010h.jpg	0	0,012	Col0	DMSO MS	ABA
P69YFI01P020h.jpg	0	6,25E-04	Col0	DMSO MS	ABA
P69YFI01P030h.jpg	0	0,045	Col0	DMSO MS	ABA
P69YFI01P040h.jpg	0	0,078	Col0	DMSO MS	ABA
p69YFI01P010h.jpg	0	0,011	Col0	DMSO MS	ABA
p69YFI01P020h.jpg	0	1,48E-04	Col0	DMSO MS	ABA
p69YFI01P030h.jpg	0	1,65E-04	Col0	DMSO MS	ABA
p69YFI01P040h.jpg	0	2,63E-04	Col0	DMSO MS	ABA
P69DMYFI01P012h.jpg	2	0,144	Col0	DMSO MS	ABA
P69DMYFI01P022h.jpg	2	0,073	Col0	DMSO MS	ABA
P69DMYFI01P032h.jpg	2	0,029	Col0	DMSO MS	ABA
P69DMYFI01P012h.jpg	2	1,65E-04	Col0	DMSO MS	ABA
P69DMYFI01P022h.jpg	2	1,32E-04	Col0	DMSO MS	ABA
P69DMYFI01P032h.jpg	2	1,48E-04	Col0	DMSO MS	ABA
P69DMYFI01P014h.jpg	4	0,099	Col0	DMSO MS	ABA
P69DMYFI01P024h.jpg	4	0,042	Col0	DMSO MS	ABA
P69DMYFI01P034h.jpg	4	0,063	Col0	DMSO MS	ABA
P69DMYFI01P044h.jpg	4	0,003	Col0	DMSO MS	ABA
P69DMYFI01P014h.jpg	4	1,65E-04	Col0	DMSO MS	ABA
P69DMYFI01P024h.jpg	4	1,48E-04	Col0	DMSO MS	ABA
P69DMYFI01P034h.jpg	4	1,32E-04	Col0	DMSO MS	ABA
P69DMYFI01P016h.jpg	6	0,031	Col0	DMSO MS	ABA
P69DMYFI01P026h.jpg	6	0,076	Col0	DMSO MS	ABA
P69DMYFI01P016h.jpg	6	1,48E-04	Col0	DMSO MS	ABA
P69DMYFI01P026h.jpg	6	1,48E-04	Col0	DMSO MS	ABA
P69DMYFI01P036h.jpg	6	0,02	Col0	DMSO MS	ABA
P69DMYFI01P046h.jpg	6	1,15E-04	Col0	DMSO MS	ABA
P69DMYFI01P018h.jpg	8	0,751	Col0	DMSO MS	ABA
P69DMYFI01P028h.jpg	8	0,522	Col0	DMSO MS	ABA

P69DMYFI01P038h.jpg	8	1,423	Col0	DMSO MS	ABA
P69DMYFI01P018h.jpg	8	0,005	Col0	DMSO MS	ABA
P69DMYFI01P028h.jpg	8	9,87E-05	Col0	DMSO MS	ABA
P69DMYFI01P038h.jpg	8	1,48E-04	Col0	DMSO MS	ABA
P69DMYFI01P048h.jpg	8	0,002	Col0	DMSO MS	ABA
KFYFI01P010h.jpg	0	0,089	*the 1-1*	DMSO SORB	ABA
KFYFI01P020h.jpg	0	0,167	*the 1-1*	DMSO SORB	ABA
KFYFI01P030h.jpg	0	0,011	*the 1-1*	DMSO SORB	ABA
KFYFI01P040h.jpg	0	0,09	*the 1-1*	DMSO SORB	ABA
KFYFI01P010h.jpg	0	0,045	*the 1-1*	DMSO SORB	ABA
KFYFI01P020h.jpg	0	0,519	*the 1-1*	DMSO SORB	ABA
KFYFI01P030h.jpg	0	0,109	*the 1-1*	DMSO SORB	ABA
KFYFI01P040h.jpg	0	0,248	*the 1-1*	DMSO SORB	ABA
KFYFI01P010h.jpg	0	1,81E-04	*the 1-1*	DMSO SORB	ABA
KFYFI01P020h.jpg	0	1,81E-04	*the 1-1*	DMSO SORB	ABA
KFYFI01P030h.jpg	0	1,65E-04	*the 1-1*	DMSO SORB	ABA
KFYFI01P040h.jpg	0	0,035	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P012h.jpg	2	2,47E-04	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P022h.jpg	2	0,06	*the 1-1*	DMSO SORB	ABA
KFDS2YFI01P012h.jpg	2	1,213	*the 1-1*	DMSO SORB	ABA
KFDS2YFI01P022h.jpg	2	0,172	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P012h.jpg	2	1,333	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P022h.jpg	2	0,44	*the 1-1*	DMSO SORB	ABA
KFIDS2YFI01P032h.jpg	2	0,218	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P012h.jpg	2	1,48E-04	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P022h.jpg	2	1,48E-04	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P014h.jpg	4	0,088	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P024h.jpg	4	0,037	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P014h.jpg	4	2,429	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P024h.jpg	4	0,404	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P034h.jpg	4	0,229	*the 1-1*	DMSO SORB	ABA

KFDSYFI01P044h.jpg	4	0,77	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P054h.jpg	4	0,493	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P064h.jpg	4	0,384	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P014h.jpg	4	1,81E-04	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P024h.jpg	4	1,81E-04	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P034h.jpg	4	1,32E-04	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P044h.jpg	4	0,002	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P016h.jpg	6	1,13	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P026h.jpg	6	1,294	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P036h.jpg	6	2,659	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P016h.jpg	6	0,836	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P026h.jpg	6	1,259	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P036h.jpg	6	1,256	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P016h.jpg	6	1,32E-04	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P026h.jpg	6	0,008	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P018h.jpg	8	2,071	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P028h.jpg	8	0,659	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P038h.jpg	8	1,517	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P048h.jpg	8	1,344	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P018h.jpg	8	2,022	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P028h.jpg	8	0,651	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P038h.jpg	8	2,206	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P048h.jpg	8	1,866	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P018h.jpg	8	0,576	*the 1-1*	DMSO SORB	ABA
KFDSYFI01P028h.jpg	8	0,629	*the 1-1*	DMSO SORB	ABA
LFYFI01P010h.jpg	0	0,125	*the 1-4*	DMSO SORB	ABA
LFYFI01P020h.jpg	0	0,096	*the 1-4*	DMSO SORB	ABA
LFYFI01P010h.jpg	0	0,331	*the 1-4*	DMSO SORB	ABA
LFYFI01P020h.jpg	0	0,239	*the 1-4*	DMSO SORB	ABA
LFYFI01P030h.jpg	0	0,352	*the 1-4*	DMSO SORB	ABA
LFYFI01P040h.jpg	0	0,241	*the 1-4*	DMSO SORB	ABA

LFYFI01P010h.jpg	0	0,05	*the 1-4*	DMSO SORB	ABA
LFYFI01P020h.jpg	0	0,03	*the 1-4*	DMSO SORB	ABA
LFYFI01P030h.jpg	0	0,053	*the 1-4*	DMSO SORB	ABA
LFYFI01P010h.jpg	0	1,98E-04	*the 1-4*	DMSO SORB	ABA
LFYFI01P020h.jpg	0	0,022	*the 1-4*	DMSO SORB	ABA
LFYFI01P030h.jpg	0	0,04	*the 1-4*	DMSO SORB	ABA
LFDsYFI01P012h.jpg	2	0,08	*the 1-4*	DMSO SORB	ABA
LFDsYFI01P022h.jpg	2	0,119	*the 1-4*	DMSO SORB	ABA
LFDsYFI01P032h.jpg	2	0,127	*the 1-4*	DMSO SORB	ABA
LFDsYFI01P042h.jpg	2	0,111	*the 1-4*	DMSO SORB	ABA
LFDsYFI01P052h.jpg	2	0,099	*the 1-4*	DMSO SORB	ABA
LFDS2YFI01P012h.jpg	2	0,388	*the 1-4*	DMSO SORB	ABA
LFDS2YFI01P022h.jpg	2	0,215	*the 1-4*	DMSO SORB	ABA
LFDS2YFI01P032h.jpg	2	0,384	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P012h.jpg	2	0,055	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P022h.jpg	2	0,39	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P032h.jpg	2	0,147	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P042h.jpg	2	0,23	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P012h.jpg	2	1,65E-04	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P022h.jpg	2	1,81E-04	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P032h.jpg	2	1,65E-04	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P012h.jpg	2	1,98E-04	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P022h.jpg	2	0,022	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P014h.jpg	4	0,451	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P024h.jpg	4	0,012	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P014h.jpg	4	2,18	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P024h.jpg	4	0,843	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P034h.jpg	4	1,905	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P044h.jpg	4	1,095	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P054h.jpg	4	0,825	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P064h.jpg	4	1,093	*the 1-4*	DMSO SORB	ABA

LFDSYFI01P014h.jpg	4	0,008	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P024h.jpg	4	0,013	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P016h.jpg	6	1,288	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P026h.jpg	6	3,014	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P036h.jpg	6	2,083	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P046h.jpg	6	2,633	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P016h.jpg	6	1,376	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P026h.jpg	6	2,073	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P036h.jpg	6	2,198	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P016h.jpg	6	0,145	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P026h.jpg	6	1,81E-04	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P036h.jpg	6	0,016	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P018h.jpg	8	1,728	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P028h.jpg	8	3,615	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P038h.jpg	8	2,124	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P018h.jpg	8	1,287	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P028h.jpg	8	2,851	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P038h.jpg	8	1,618	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P018h.jpg	8	0,057	*the 1-4*	DMSO SORB	ABA
LFDSYFI01P028h.jpg	8	8,23E-05	*the 1-4*	DMSO SORB	ABA
P69YFI01P010h.jpg	0	0,012	Col0	DMSO SORB	ABA
P69YFI01P020h.jpg	0	6,25E-04	Col0	DMSO SORB	ABA
P69YFI01P030h.jpg	0	0,045	Col0	DMSO SORB	ABA
P69YFI01P040h.jpg	0	0,078	Col0	DMSO SORB	ABA
p69YFI01P010h.jpg	0	0,011	Col0	DMSO SORB	ABA
p69YFI01P020h.jpg	0	1,48E-04	Col0	DMSO SORB	ABA
p69YFI01P030h.jpg	0	1,65E-04	Col0	DMSO SORB	ABA
p69YFI01P040h.jpg	0	2,63E-04	Col0	DMSO SORB	ABA
P69DSYFI01P012h.jpg	2	0,811	Col0	DMSO SORB	ABA
P69DSYFI01P022h.jpg	2	1,174	Col0	DMSO SORB	ABA
P69DSYFI01P032h.jpg	2	0,671	Col0	DMSO SORB	ABA

P69DSYFI01P012h.jpg	2	1,15E-04	Col0	DMSO SORB	ABA
P69DSYFI01P022h.jpg	2	0,002	Col0	DMSO SORB	ABA
P69DSYFI01P014h.jpg	4	0,342	Col0	DMSO SORB	ABA
P69DSYFI01P024h.jpg	4	0,708	Col0	DMSO SORB	ABA
P69DSYFI01P034h.jpg	4	0,235	Col0	DMSO SORB	ABA
P69DSYFI01P044h.jpg	4	1,056	Col0	DMSO SORB	ABA
P69DSYFI01P014h.jpg	4	0,006	Col0	DMSO SORB	ABA
P69DSYFI01P024h.jpg	4	0,115	Col0	DMSO SORB	ABA
P69DSYFI01P034h.jpg	4	1,15E-04	Col0	DMSO SORB	ABA
P69DSYFI01P044h.jpg	4	1,48E-04	Col0	DMSO SORB	ABA
P69DSYFI01P016h.jpg	6	1,481	Col0	DMSO SORB	ABA
P69DSYFI01P026h.jpg	6	1,298	Col0	DMSO SORB	ABA
P69DSYFI01P036h.jpg	6	1,313	Col0	DMSO SORB	ABA
P69DSYFI01P046h.jpg	6	1,135	Col0	DMSO SORB	ABA
P69DSYFI01P016h.jpg	6	4,28E-04	Col0	DMSO SORB	ABA
P69DSYFI01P026h.jpg	6	0,013	Col0	DMSO SORB	ABA
P69DSYFI01P036h.jpg	6	0,214	Col0	DMSO SORB	ABA
P69DSYFI01P046h.jpg	6	0,194	Col0	DMSO SORB	ABA
P69DSYFI01P018h.jpg	8	3,692	Col0	DMSO SORB	ABA
P69DSYFI01P028h.jpg	8	1,914	Col0	DMSO SORB	ABA
P69DSYFI01P038h.jpg	8	1,621	Col0	DMSO SORB	ABA
P69DSYFI01P018h.jpg	8	0,388	Col0	DMSO SORB	ABA
P69DSYFI01P028h.jpg	8	0,394	Col0	DMSO SORB	ABA
P69DSYFI01P038h.jpg	8	0,369	Col0	DMSO SORB	ABA
P69DSYFI01P048h.jpg	8	0,108	Col0	DMSO SORB	ABA
KFYFI01P010h.jpg	0	0,089	*the 1-1*	ISX MS	ABA
KFYFI01P020h.jpg	0	0,167	*the 1-1*	ISX MS	ABA
KFYFI01P030h.jpg	0	0,011	*the 1-1*	ISX MS	ABA
KFYFI01P040h.jpg	0	0,09	*the 1-1*	ISX MS	ABA
KFYFI01P010h.jpg	0	0,045	*the 1-1*	ISX MS	ABA
KFYFI01P020h.jpg	0	0,519	*the 1-1*	ISX MS	ABA

KFYFI01P030h.jpg	0	0,109	*the 1-1*	ISX MS	ABA
KFYFI01P040h.jpg	0	0,248	*the 1-1*	ISX MS	ABA
KFYFI01P010h.jpg	0	1,81E-04	*the 1-1*	ISX MS	ABA
KFYFI01P020h.jpg	0	1,81E-04	*the 1-1*	ISX MS	ABA
KFYFI01P030h.jpg	0	1,65E-04	*the 1-1*	ISX MS	ABA
KFYFI01P040h.jpg	0	0,035	*the 1-1*	ISX MS	ABA
KFIMYFI01P012h.jpg	2	2,47E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P022h.jpg	2	0,016	*the 1-1*	ISX MS	ABA
KFIMYFI01P032h.jpg	2	0,073	*the 1-1*	ISX MS	ABA
KFIM2YFI01P012h.jpg	2	0,207	*the 1-1*	ISX MS	ABA
KFIM2YFI01P022h.jpg	2	0,356	*the 1-1*	ISX MS	ABA
KFIM2YFI01P032h.jpg	2	0,163	*the 1-1*	ISX MS	ABA
KFIMYFI01P012h.jpg	2	0,171	*the 1-1*	ISX MS	ABA
KFIMYFI01P022h.jpg	2	0,675	*the 1-1*	ISX MS	ABA
KFIMYFI01P032h.jpg	2	0,182	*the 1-1*	ISX MS	ABA
KFIMYFI01P012h.jpg	2	0,001	*the 1-1*	ISX MS	ABA
KFIMYFI01P022h.jpg	2	1,15E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P014h.jpg	4	0,008	*the 1-1*	ISX MS	ABA
KFIMYFI01P024h.jpg	4	1,98E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P014h.jpg	4	0,305	*the 1-1*	ISX MS	ABA
KFIMYFI01P024h.jpg	4	0,191	*the 1-1*	ISX MS	ABA
KFIMYFI01P034h.jpg	4	0,185	*the 1-1*	ISX MS	ABA
KFIMYFI01P044h.jpg	4	0,099	*the 1-1*	ISX MS	ABA
KFIMYFI01P054h.jpg	4	0,266	*the 1-1*	ISX MS	ABA
KFIMYFI01P014h.jpg	4	1,48E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P024h.jpg	4	1,98E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P034h.jpg	4	1,48E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P044h.jpg	4	1,65E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P016h.jpg	6	0,022	*the 1-1*	ISX MS	ABA
KFIMYFI01P026h.jpg	6	0,014	*the 1-1*	ISX MS	ABA
KFIMYFI01P036h.jpg	6	0,036	*the 1-1*	ISX MS	ABA

KFIMYFI01P016h.jpg	6	0,132	*the 1-1*	ISX MS	ABA
KFIMYFI01P026h.jpg	6	0,15	*the 1-1*	ISX MS	ABA
KFIMYFI01P036h.jpg	6	0,118	*the 1-1*	ISX MS	ABA
KFIMYFI01P016h.jpg	6	1,48E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P026h.jpg	6	1,32E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P036h.jpg	6	1,48E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P046h.jpg	6	1,32E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P018h.jpg	8	0,112	*the 1-1*	ISX MS	ABA
KFIMYFI01P028h.jpg	8	0,037	*the 1-1*	ISX MS	ABA
KFIMYFI01P038h.jpg	8	0,068	*the 1-1*	ISX MS	ABA
KFIMYFI01P018h.jpg	8	0,211	*the 1-1*	ISX MS	ABA
KFIMYFI01P028h.jpg	8	0,27	*the 1-1*	ISX MS	ABA
KFIMYFI01P038h.jpg	8	0,249	*the 1-1*	ISX MS	ABA
KFIMYFI01P048h.jpg	8	0,383	*the 1-1*	ISX MS	ABA
KFIMYFI01P018h.jpg	8	2,30E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P028h.jpg	8	2,80E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P038h.jpg	8	2,14E-04	*the 1-1*	ISX MS	ABA
KFIMYFI01P048h.jpg	8	1,65E-04	*the 1-1*	ISX MS	ABA
LFYFI01P010h.jpg	0	0,125	*the 1-4*	ISX MS	ABA
LFYFI01P020h.jpg	0	0,096	*the 1-4*	ISX MS	ABA
LFYFI01P010h.jpg	0	0,331	*the 1-4*	ISX MS	ABA
LFYFI01P020h.jpg	0	0,239	*the 1-4*	ISX MS	ABA
LFYFI01P030h.jpg	0	0,352	*the 1-4*	ISX MS	ABA
LFYFI01P040h.jpg	0	0,241	*the 1-4*	ISX MS	ABA
LFYFI01P010h.jpg	0	0,05	*the 1-4*	ISX MS	ABA
LFYFI01P020h.jpg	0	0,03	*the 1-4*	ISX MS	ABA
LFYFI01P030h.jpg	0	0,053	*the 1-4*	ISX MS	ABA
LFYFI01P010h.jpg	0	1,98E-04	*the 1-4*	ISX MS	ABA
LFYFI01P020h.jpg	0	0,022	*the 1-4*	ISX MS	ABA
LFYFI01P030h.jpg	0	0,04	*the 1-4*	ISX MS	ABA
LFIMYFI01P012h.jpg	2	0,168	*the 1-4*	ISX MS	ABA

LFIMYFI01P022h.jpg	2	0,189	*the 1-4*	ISX MS	ABA
LFIMYFI01P032h.jpg	2	0,091	*the 1-4*	ISX MS	ABA
LFIMYFI01P042h.jpg	2	0,121	*the 1-4*	ISX MS	ABA
LFIM2YFI01P012h.jpg	2	0,283	*the 1-4*	ISX MS	ABA
LFIM2YFI01P022h.jpg	2	0,365	*the 1-4*	ISX MS	ABA
LFIM2YFI01P032h.jpg	2	0,208	*the 1-4*	ISX MS	ABA
LFIM2YFI01P042h.jpg	2	0,179	*the 1-4*	ISX MS	ABA
LFIMYFI01P012h.jpg	2	0,227	*the 1-4*	ISX MS	ABA
LFIMYFI01P022h.jpg	2	0,284	*the 1-4*	ISX MS	ABA
LFIMYFI01P032h.jpg	2	0,16	*the 1-4*	ISX MS	ABA
LFIMYFI01P042h.jpg	2	0,56	*the 1-4*	ISX MS	ABA
LFIMYFI01P048h.jpg	2	0,142	*the 1-4*	ISX MS	ABA
LFIMYFI01P012h.jpg	2	0,006	*the 1-4*	ISX MS	ABA
LFIMYFI01P022h.jpg	2	0,034	*the 1-4*	ISX MS	ABA
LFIMYFI01P032h.jpg	2	0,014	*the 1-4*	ISX MS	ABA
LFIMYFI01P012h.jpg	2	1,65E-04	*the 1-4*	ISX MS	ABA
LFIMYFI01P022h.jpg	2	0,011	*the 1-4*	ISX MS	ABA
LFIMYFI01P032h.jpg	2	1,81E-04	*the 1-4*	ISX MS	ABA
LFIMYFI01P014h.jpg	4	0,251	*the 1-4*	ISX MS	ABA
LFIMYFI01P024h.jpg	4	0,015	*the 1-4*	ISX MS	ABA
LFIMYFI01P034h.jpg	4	0,168	*the 1-4*	ISX MS	ABA
LFIMYFI01P014h.jpg	4	0,355	*the 1-4*	ISX MS	ABA
LFIMYFI01P024h.jpg	4	0,073	*the 1-4*	ISX MS	ABA
LFIMYFI01P034h.jpg	4	0,143	*the 1-4*	ISX MS	ABA
LFIMYFI01P014h.jpg	4	1,65E-04	*the 1-4*	ISX MS	ABA
LFIMYFI01P024h.jpg	4	9,87E-05	*the 1-4*	ISX MS	ABA
LFIMYFI01P016h.jpg	6	0,269	*the 1-4*	ISX MS	ABA
LFIMYFI01P026h.jpg	6	0,342	*the 1-4*	ISX MS	ABA
LFIMYFI01P036h.jpg	6	0,062	*the 1-4*	ISX MS	ABA
LFIMYFI01P046h.jpg	6	0,228	*the 1-4*	ISX MS	ABA
LFIMYFI01P016h.jpg	6	0,333	*the 1-4*	ISX MS	ABA

LFIMYFI01P026h.jpg	6	0,181	*the 1-4*	ISX MS	ABA
LFIMYFI01P036h.jpg	6	0,263	*the 1-4*	ISX MS	ABA
LFIMYFI01P016h.jpg	6	1,65E-04	*the 1-4*	ISX MS	ABA
LFIMYFI01P026h.jpg	6	1,48E-04	*the 1-4*	ISX MS	ABA
LFIMYFI01P036h.jpg	6	2,14E-04	*the 1-4*	ISX MS	ABA
LFIMYFI01P018h.jpg	8	0,088	*the 1-4*	ISX MS	ABA
LFIMYFI01P028h.jpg	8	0,293	*the 1-4*	ISX MS	ABA
LFIMYFI01P038h.jpg	8	0,183	*the 1-4*	ISX MS	ABA
LFIMYFI01P048h.jpg	8	0,04	*the 1-4*	ISX MS	ABA
LFIMYFI01P018h.jpg	8	1,602	*the 1-4*	ISX MS	ABA
LFIMYFI01P028h.jpg	8	0,344	*the 1-4*	ISX MS	ABA
LFIMYFI01P038h.jpg	8	0,134	*the 1-4*	ISX MS	ABA
LFIMYFI01P018h.jpg	8	2,14E-04	*the 1-4*	ISX MS	ABA
LFIMYFI01P028h.jpg	8	1,65E-04	*the 1-4*	ISX MS	ABA
LFIMYFI01P038h.jpg	8	1,81E-04	*the 1-4*	ISX MS	ABA
LFIMYFI01P048h.jpg	8	1,65E-04	*the 1-4*	ISX MS	ABA
P69YFI01P010h.jpg	0	0,012	Col0	ISX MS	ABA
P69YFI01P020h.jpg	0	6,25E-04	Col0	ISX MS	ABA
P69YFI01P030h.jpg	0	0,045	Col0	ISX MS	ABA
P69YFI01P040h.jpg	0	0,078	Col0	ISX MS	ABA
p69YFI01P010h.jpg	0	0,011	Col0	ISX MS	ABA
p69YFI01P020h.jpg	0	1,48E-04	Col0	ISX MS	ABA
p69YFI01P030h.jpg	0	1,65E-04	Col0	ISX MS	ABA
p69YFI01P040h.jpg	0	2,63E-04	Col0	ISX MS	ABA
P69IMYFI01P012h.jpg	2	0,054	Col0	ISX MS	ABA
P69IMYFI01P022h.jpg	2	0,038	Col0	ISX MS	ABA
P69IMYFI01P032h.jpg	2	0,041	Col0	ISX MS	ABA
P69IMYFI01P042h.jpg	2	1,227	Col0	ISX MS	ABA
P69IMYFI01P012h.jpg	2	1,32E-04	Col0	ISX MS	ABA
P69IMYFI01P022h.jpg	2	0,034	Col0	ISX MS	ABA
P69IMYFI01P032h.jpg	2	1,48E-04	Col0	ISX MS	ABA

P69IMYFI01P042h.jpg	2	1,81E-04	Col0	ISX MS	ABA
P69IMYFI01P014h.jpg	4	0,047	Col0	ISX MS	ABA
P69IMYFI01P024h.jpg	4	0,029	Col0	ISX MS	ABA
P69IMYFI01P034h.jpg	4	0,084	Col0	ISX MS	ABA
P69IMYFI01P044h.jpg	4	0,132	Col0	ISX MS	ABA
P69IMYFI01P014h.jpg	4	0,004	Col0	ISX MS	ABA
P69IMYFI01P024h.jpg	4	1,32E-04	Col0	ISX MS	ABA
P69IMYFI01P034h.jpg	4	0,048	Col0	ISX MS	ABA
P69IMYFI01P044h.jpg	4	0,03	Col0	ISX MS	ABA
P69IMYFI01P054h.jpg	4	0,044	Col0	ISX MS	ABA
P69IMYFI01P016h.jpg	6	0,01	Col0	ISX MS	ABA
P69IMYFI01P026h.jpg	6	0,111	Col0	ISX MS	ABA
P69IMYFI01P036h.jpg	6	0,049	Col0	ISX MS	ABA
P69IMYFI01P046h.jpg	6	0,051	Col0	ISX MS	ABA
P69IMYFI01P016h.jpg	6	1,48E-04	Col0	ISX MS	ABA
P69IMYFI01P026h.jpg	6	1,48E-04	Col0	ISX MS	ABA
P69IMYFI01P036h.jpg	6	1,15E-04	Col0	ISX MS	ABA
P69IMYFI01P046h.jpg	6	1,48E-04	Col0	ISX MS	ABA
P69IMYFI01P018h.jpg	8	0,118	Col0	ISX MS	ABA
P69IMYFI01P028h.jpg	8	0,316	Col0	ISX MS	ABA
P69IMYFI01P038h.jpg	8	0,356	Col0	ISX MS	ABA
P69IMYFI01P018h.jpg	8	0,004	Col0	ISX MS	ABA
P69IMYFI01P028h.jpg	8	1,15E-04	Col0	ISX MS	ABA
P69IMYFI01P038h.jpg	8	2,96E-04	Col0	ISX MS	ABA
P69IMYFI01P048h.jpg	8	1,65E-04	Col0	ISX MS	ABA
KFYFI01P010h.jpg	0	0,089	*the 1-1*	ISX SORB	ABA
KFYFI01P020h.jpg	0	0,167	*the 1-1*	ISX SORB	ABA
KFYFI01P030h.jpg	0	0,011	*the 1-1*	ISX SORB	ABA
KFYFI01P040h.jpg	0	0,09	*the 1-1*	ISX SORB	ABA
KFYFI01P010h.jpg	0	1,81E-04	*the 1-1*	ISX SORB	ABA
KFYFI01P020h.jpg	0	1,81E-04	*the 1-1*	ISX SORB	ABA

KFYFI01P030h.jpg	0	1,65E-04	*the 1-1*	ISX SORB	ABA
KFYFI01P040h.jpg	0	0,035	*the 1-1*	ISX SORB	ABA
KFISYFI01P012h.jpg	2	0,046	*the 1-1*	ISX SORB	ABA
KFISYFI01P022h.jpg	2	0,052	*the 1-1*	ISX SORB	ABA
KFISYFI01P032h.jpg	2	0,09	*the 1-1*	ISX SORB	ABA
KFISYFI01P042h.jpg	2	0,594	*the 1-1*	ISX SORB	ABA
KFISYFI01P012h.jpg	2	1,65E-04	*the 1-1*	ISX SORB	ABA
KFISYFI01P022h.jpg	2	2,96E-04	*the 1-1*	ISX SORB	ABA
KFISYFI01P032h.jpg	2	1,48E-04	*the 1-1*	ISX SORB	ABA
KFISYFI01P042h.jpg	2	1,15E-04	*the 1-1*	ISX SORB	ABA
KFISYFI01P014h.jpg	4	0,192	*the 1-1*	ISX SORB	ABA
KFISYFI01P024h.jpg	4	0,07	*the 1-1*	ISX SORB	ABA
KFISYFI01P014h.jpg	4	4,61E-04	*the 1-1*	ISX SORB	ABA
KFISYFI01P024h.jpg	4	1,48E-04	*the 1-1*	ISX SORB	ABA
KFISYFI01P034h.jpg	4	1,65E-04	*the 1-1*	ISX SORB	ABA
KFISYFI01P044h.jpg	4	0,023	*the 1-1*	ISX SORB	ABA
KFISYFI01P016h.jpg	6	2,467	*the 1-1*	ISX SORB	ABA
KFISYFI01P026h.jpg	6	0,344	*the 1-1*	ISX SORB	ABA
KFISYFI01P036h.jpg	6	0,592	*the 1-1*	ISX SORB	ABA
KFISYFI01P016h.jpg	6	0,164	*the 1-1*	ISX SORB	ABA
KFISYFI01P026h.jpg	6	0,002	*the 1-1*	ISX SORB	ABA
KFISYFI01P036h.jpg	6	1,98E-04	*the 1-1*	ISX SORB	ABA
KFISYFI01P018h.jpg	8	0,938	*the 1-1*	ISX SORB	ABA
KFISYFI01P028h.jpg	8	0,938	*the 1-1*	ISX SORB	ABA
KFISYFI01P038h.jpg	8	2,258	*the 1-1*	ISX SORB	ABA
KFISYFI01P048h.jpg	8	2,039	*the 1-1*	ISX SORB	ABA
KFISYFI01P018h.jpg	8	0,087	*the 1-1*	ISX SORB	ABA
KFISYFI01P028h.jpg	8	1,461	*the 1-1*	ISX SORB	ABA
LFYFI01P010h.jpg	0	0,125	*the 1-4*	ISX SORB	ABA
LFYFI01P020h.jpg	0	0,096	*the 1-4*	ISX SORB	ABA
LFYFI01P010h.jpg	0	0,05	*the 1-4*	ISX SORB	ABA

LFYFI01P020h.jpg	0	0,03	*the 1-4*	ISX SORB	ABA
LFYFI01P030h.jpg	0	0,053	*the 1-4*	ISX SORB	ABA
LFYFI01P010h.jpg	0	1,98E-04	*the 1-4*	ISX SORB	ABA
LFYFI01P020h.jpg	0	0,022	*the 1-4*	ISX SORB	ABA
LFYFI01P030h.jpg	0	0,04	*the 1-4*	ISX SORB	ABA
LFISYFI01P012h.jpg	2	0,288	*the 1-4*	ISX SORB	ABA
LFISYFI01P022h.jpg	2	0,017	*the 1-4*	ISX SORB	ABA
LFISYFI01P032h.jpg	2	0,061	*the 1-4*	ISX SORB	ABA
LFISYFI01P042h.jpg	2	0,203	*the 1-4*	ISX SORB	ABA
LFISYFI01P012h.jpg	2	0,031	*the 1-4*	ISX SORB	ABA
LFISYFI01P022h.jpg	2	0,002	*the 1-4*	ISX SORB	ABA
LFISYFI01P012h.jpg	2	6,09E-04	*the 1-4*	ISX SORB	ABA
LFISYFI01P022h.jpg	2	1,65E-04	*the 1-4*	ISX SORB	ABA
LFISYFI01P032h.jpg	2	1,98E-04	*the 1-4*	ISX SORB	ABA
LFISYFI01P042h.jpg	2	2,30E-04	*the 1-4*	ISX SORB	ABA
LFISYFI01P014h.jpg	4	0,06	*the 1-4*	ISX SORB	ABA
LFISYFI01P024h.jpg	4	0,067	*the 1-4*	ISX SORB	ABA
LFISYFI01P014h.jpg	4	1,65E-04	*the 1-4*	ISX SORB	ABA
LFISYFI01P024h.jpg	4	0,032	*the 1-4*	ISX SORB	ABA
LFISYFI01P034h.jpg	4	0,008	*the 1-4*	ISX SORB	ABA
LFISYFI01P016h.jpg	6	1,532	*the 1-4*	ISX SORB	ABA
LFISYFI01P026h.jpg	6	2,311	*the 1-4*	ISX SORB	ABA
LFISYFI01P036h.jpg	6	2,42	*the 1-4*	ISX SORB	ABA
LFISYFI01P046h.jpg	6	0,934	*the 1-4*	ISX SORB	ABA
LFISYFI01P016h.jpg	6	9,71E-04	*the 1-4*	ISX SORB	ABA
LFISYFI01P026h.jpg	6	1,32E-04	*the 1-4*	ISX SORB	ABA
LFISYFI01P018h.jpg	8	2,829	*the 1-4*	ISX SORB	ABA
LFISYFI01P028h.jpg	8	1,803	*the 1-4*	ISX SORB	ABA
LFISYFI01P038h.jpg	8	2,338	*the 1-4*	ISX SORB	ABA
LFISYFI01P048h.jpg	8	2,683	*the 1-4*	ISX SORB	ABA
LFISYFI01P018h.jpg	8	0,737	*the 1-4*	ISX SORB	ABA

LFISYFI01P028h.jpg	8	0,129	*the 1-4*	ISX SORB	ABA
LFISYFI01P038h.jpg	8	0,469	*the 1-4*	ISX SORB	ABA
P69YFI01P010h.jpg	0	0,012	Col0	ISX SORB	ABA
P69YFI01P020h.jpg	0	6,25E-04	Col0	ISX SORB	ABA
P69YFI01P030h.jpg	0	0,045	Col0	ISX SORB	ABA
P69YFI01P040h.jpg	0	0,078	Col0	ISX SORB	ABA
p69YFI01P010h.jpg	0	0,011	Col0	ISX SORB	ABA
p69YFI01P020h.jpg	0	1,48E-04	Col0	ISX SORB	ABA
p69YFI01P030h.jpg	0	1,65E-04	Col0	ISX SORB	ABA
p69YFI01P040h.jpg	0	2,63E-04	Col0	ISX SORB	ABA
P69ISYFI01P012h.jpg	2	0,146	Col0	ISX SORB	ABA
P69ISYFI01P022h.jpg	2	0,251	Col0	ISX SORB	ABA
P69ISYFI01P032h.jpg	2	0,152	Col0	ISX SORB	ABA
P69ISYFI01P012h.jpg	2	1,65E-04	Col0	ISX SORB	ABA
P69ISYFI01P022h.jpg	2	1,15E-04	Col0	ISX SORB	ABA
P69ISYFI01P032h.jpg	2	1,32E-04	Col0	ISX SORB	ABA
P69ISYFI01P042h.jpg	2	0,002	Col0	ISX SORB	ABA
P69ISYFI01P014h.jpg	4	1,747	Col0	ISX SORB	ABA
P69ISYFI01P024h.jpg	4	0,955	Col0	ISX SORB	ABA
P69ISYFI01P034h.jpg	4	0,846	Col0	ISX SORB	ABA
P69ISYFI01P044h.jpg	4	1,164	Col0	ISX SORB	ABA
P69ISYFI01P014h.jpg	4	0,031	Col0	ISX SORB	ABA
P69ISYFI01P024h.jpg	4	0,002	Col0	ISX SORB	ABA
P69ISYFI01P034h.jpg	4	0,019	Col0	ISX SORB	ABA
P69ISYFI01P016h.jpg	6	2,164	Col0	ISX SORB	ABA
P69ISYFI01P026h.jpg	6	2,521	Col0	ISX SORB	ABA
P69ISYFI01P036h.jpg	6	0,744	Col0	ISX SORB	ABA
P69ISYFI01P046h.jpg	6	1,084	Col0	ISX SORB	ABA
P69ISYFI01P016h.jpg	6	1,65E-04	Col0	ISX SORB	ABA
P69ISYFI01P026h.jpg	6	1,32E-04	Col0	ISX SORB	ABA
P69ISYFI01P036h.jpg	6	0,311	Col0	ISX SORB	ABA

P69ISYFI01P018h.jpg	8	3,574	Col0	ISX SORB	ABA
P69ISYFI01P028h.jpg	8	4,188	Col0	ISX SORB	ABA
P69ISYFI01P038h.jpg	8	3,532	Col0	ISX SORB	ABA
P69ISYFI01P048h.jpg	8	4,849	Col0	ISX SORB	ABA
P69ISYFI01P018h.jpg	8	0,018	Col0	ISX SORB	ABA
P69ISYFI01P028h.jpg	8	0,458	Col0	ISX SORB	ABA
P69ISYFI01P038h.jpg	8	0,748	Col0	ISX SORB	ABA
P69ISYFI01P048h.jpg	8	0,261	Col0	ISX SORB	ABA
KHYFI01P010h.jpg	0	0,451	*the 1-1*	DMSO MS	AUX
KHYFI01P020h.jpg	0	0,16	*the 1-1*	DMSO MS	AUX
KHYFI01P030h.jpg	0	0,136	*the 1-1*	DMSO MS	AUX
KHYFI01P040h.jpg	0	0,142	*the 1-1*	DMSO MS	AUX
KHYFI01P010h.jpg	0	0,603	*the 1-1*	DMSO MS	AUX
KHYFI01P020h.jpg	0	0,204	*the 1-1*	DMSO MS	AUX
KHYFI01P030h.jpg	0	0,419	*the 1-1*	DMSO MS	AUX
KHYFI01P040h.jpg	0	0,21	*the 1-1*	DMSO MS	AUX
KHYFI01P010h.jpg	0	0,143	*the 1-1*	DMSO MS	AUX
KHYFI01P020h.jpg	0	0,095	*the 1-1*	DMSO MS	AUX
KHYFI01P030h.jpg	0	0,262	*the 1-1*	DMSO MS	AUX
KHDMYFI01P012h.jpg	2	0,244	*the 1-1*	DMSO MS	AUX
KHDMYFI01P022h.jpg	2	0,18	*the 1-1*	DMSO MS	AUX
KHDMYFI01P032h.jpg	2	0,395	*the 1-1*	DMSO MS	AUX
KHDMYFI01P042h.jpg	2	0,155	*the 1-1*	DMSO MS	AUX
KHDMYFI01P012h.jpg	2	0,171	*the 1-1*	DMSO MS	AUX
KHDMYFI01P022h.jpg	2	0,194	*the 1-1*	DMSO MS	AUX
KHDMYFI01P032h.jpg	2	1,81E-04	*the 1-1*	DMSO MS	AUX
KHDMYFI01P042h.jpg	2	0,052	*the 1-1*	DMSO MS	AUX
KHDMYFI01P012h.jpg	2	0,571	*the 1-1*	DMSO MS	AUX
KHDMYFI01P022h.jpg	2	0,459	*the 1-1*	DMSO MS	AUX
KHDMYFI01P032h.jpg	2	0,293	*the 1-1*	DMSO MS	AUX
KHDMYFI01P042h.jpg	2	0,258	*the 1-1*	DMSO MS	AUX

KHDMYFI01P014h.jpg	4	1,26	*the 1-1*	DMSO MS	AUX
KHDMYFI01P024h.jpg	4	1,623	*the 1-1*	DMSO MS	AUX
KHDMYFI01P034h.jpg	4	1,758	*the 1-1*	DMSO MS	AUX
KHDMYFI01P044h.jpg	4	0,386	*the 1-1*	DMSO MS	AUX
KHDMYFI01P014h.jpg	4	4,28E-04	*the 1-1*	DMSO MS	AUX
KHDMYFI01P024h.jpg	4	0,002	*the 1-1*	DMSO MS	AUX
KHDMYFI01P034h.jpg	4	0,239	*the 1-1*	DMSO MS	AUX
KHDMYFI01P044h.jpg	4	0,467	*the 1-1*	DMSO MS	AUX
KHDMYFI01P014h.jpg	4	0,545	*the 1-1*	DMSO MS	AUX
KHDMYFI01P024h.jpg	4	0,067	*the 1-1*	DMSO MS	AUX
KHDMYFI01P034h.jpg	4	0,207	*the 1-1*	DMSO MS	AUX
KHDMYFI01P016h.jpg	6	0,227	*the 1-1*	DMSO MS	AUX
KHDMYFI01P026h.jpg	6	1,147	*the 1-1*	DMSO MS	AUX
KHDMYFI01P036h.jpg	6	2,573	*the 1-1*	DMSO MS	AUX
KHDMYFI01P046h.jpg	6	0,811	*the 1-1*	DMSO MS	AUX
KHDMYFI01P016h.jpg	6	0,317	*the 1-1*	DMSO MS	AUX
KHDMYFI01P026h.jpg	6	0,006	*the 1-1*	DMSO MS	AUX
KHDMYFI01P036h.jpg	6	0,574	*the 1-1*	DMSO MS	AUX
KHDMYFI01P046h.jpg	6	0,396	*the 1-1*	DMSO MS	AUX
KHDMYFI01P016h.jpg	6	0,028	*the 1-1*	DMSO MS	AUX
KHDMYFI01P026h.jpg	6	0,15	*the 1-1*	DMSO MS	AUX
KHDMYFI01P036h.jpg	6	0,148	*the 1-1*	DMSO MS	AUX
KHDMYFI01P018h.jpg	8	1,905	*the 1-1*	DMSO MS	AUX
KHDMYFI01P028h.jpg	8	1,843	*the 1-1*	DMSO MS	AUX
KHDMYFI01P038h.jpg	8	1,019	*the 1-1*	DMSO MS	AUX
KHDMYFI01P018h.jpg	8	0,181	*the 1-1*	DMSO MS	AUX
KHDMYFI01P028h.jpg	8	0,479	*the 1-1*	DMSO MS	AUX
KHDMYFI01P038h.jpg	8	0,008	*the 1-1*	DMSO MS	AUX
KHDMYFI01P048h.jpg	8	0,003	*the 1-1*	DMSO MS	AUX
KHDMYFI01P018h.jpg	8	0,29	*the 1-1*	DMSO MS	AUX
KHDMYFI01P028h.jpg	8	0,355	*the 1-1*	DMSO MS	AUX

KHDMYFI01P038h.jpg	8	0,372	*the 1-1*	DMSO MS	AUX
KHDMYFI01P048h.jpg	8	0,126	*the 1-1*	DMSO MS	AUX
LHYFI01P010h.jpg	0	0,045	*the 1-4*	DMSO MS	AUX
LHYFI01P020h.jpg	0	0,116	*the 1-4*	DMSO MS	AUX
LHYFI01P030h.jpg	0	1,246	*the 1-4*	DMSO MS	AUX
LHYFI01P040h.jpg	0	0,06	*the 1-4*	DMSO MS	AUX
LHYFI01P010h.jpg	0	0,072	*the 1-4*	DMSO MS	AUX
LHYFI01P020h.jpg	0	0,1	*the 1-4*	DMSO MS	AUX
LHYFI01P030h.jpg	0	0,005	*the 1-4*	DMSO MS	AUX
LHYFI01P010h.jpg	0	0,532	*the 1-4*	DMSO MS	AUX
LHYFI01P020h.jpg	0	0,165	*the 1-4*	DMSO MS	AUX
LHYFI01P030h.jpg	0	0,106	*the 1-4*	DMSO MS	AUX
LHYFI01P040h.jpg	0	0,093	*the 1-4*	DMSO MS	AUX
LHDMYFI01P012h.jpg	2	0,361	*the 1-4*	DMSO MS	AUX
LHDMYFI01P022h.jpg	2	0,82	*the 1-4*	DMSO MS	AUX
LHDMYFI01P032h.jpg	2	0,351	*the 1-4*	DMSO MS	AUX
LHDMYFI01P012h.jpg	2	0,175	*the 1-4*	DMSO MS	AUX
LHDMYFI01P012h.jpg	2	0,112	*the 1-4*	DMSO MS	AUX
LHDMYFI01P022h.jpg	2	0,117	*the 1-4*	DMSO MS	AUX
LHDMYFI01P032h.jpg	2	0,13	*the 1-4*	DMSO MS	AUX
LHDMYFI01P042h.jpg	2	0,121	*the 1-4*	DMSO MS	AUX
LHDMYFI01P014h.jpg	4	3,16	*the 1-4*	DMSO MS	AUX
LHDMYFI01P024h.jpg	4	0,907	*the 1-4*	DMSO MS	AUX
LHDMYFI01P034h.jpg	4	1,485	*the 1-4*	DMSO MS	AUX
LHDMYFI01P044h.jpg	4	1,649	*the 1-4*	DMSO MS	AUX
LHDMYFI01P014h.jpg	4	0,005	*the 1-4*	DMSO MS	AUX
LHDMYFI01P024h.jpg	4	0,06	*the 1-4*	DMSO MS	AUX
LHDMYFI01P014h.jpg	4	0,3	*the 1-4*	DMSO MS	AUX
LHDMYFI01P024h.jpg	4	0,115	*the 1-4*	DMSO MS	AUX
LHDMYFI01P034h.jpg	4	0,166	*the 1-4*	DMSO MS	AUX
LHDMYFI01P016h.jpg	6	3,406	*the 1-4*	DMSO MS	AUX

LHDMYFI01P026h.jpg	6	3,802	*the 1-4*	DMSO MS	AUX
LHDMYFI01P036h.jpg	6	2,035	*the 1-4*	DMSO MS	AUX
LHDMYFI01P046h.jpg	6	0,382	*the 1-4*	DMSO MS	AUX
LHDMYFI01P016h.jpg	6	0,002	*the 1-4*	DMSO MS	AUX
LHDMYFI01P016h.jpg	6	0,204	*the 1-4*	DMSO MS	AUX
LHDMYFI01P026h.jpg	6	0,104	*the 1-4*	DMSO MS	AUX
LHDMYFI01P036h.jpg	6	0,264	*the 1-4*	DMSO MS	AUX
LHDMYFI01P046h.jpg	6	0,154	*the 1-4*	DMSO MS	AUX
LHDMYFI01P018h.jpg	8	2,637	*the 1-4*	DMSO MS	AUX
LHDMYFI01P028h.jpg	8	3,718	*the 1-4*	DMSO MS	AUX
LHDMYFI01P038h.jpg	8	3,156	*the 1-4*	DMSO MS	AUX
LHDMYFI01P018h.jpg	8	0,007	*the 1-4*	DMSO MS	AUX
LHDMYFI01P018h.jpg	8	0,015	*the 1-4*	DMSO MS	AUX
LHDMYFI01P028h.jpg	8	0,326	*the 1-4*	DMSO MS	AUX
LHDMYFI01P038h.jpg	8	0,01	*the 1-4*	DMSO MS	AUX
DV1YFI01P010h.jpg	0	0,412	Col0	DMSO MS	AUX
DV1YFI01P020h.jpg	0	1,197	Col0	DMSO MS	AUX
DV1YFI01P030h.jpg	0	0,663	Col0	DMSO MS	AUX
DV1YFI01P040h.jpg	0	0,135	Col0	DMSO MS	AUX
DV2YFI01P010h.jpg	0	0,407	Col0	DMSO MS	AUX
DV2YFI01P020h.jpg	0	0,762	Col0	DMSO MS	AUX
DV2YFI01P030h.jpg	0	0,357	Col0	DMSO MS	AUX
DV2YFI01P040h.jpg	0	0,774	Col0	DMSO MS	AUX
DVYFI01P010h.jpg	0	0,003	Col0	DMSO MS	AUX
DVYFI01P020h.jpg	0	0,007	Col0	DMSO MS	AUX
DVYFI01P030h.jpg	0	0,002	Col0	DMSO MS	AUX
DVYFI01P040h.jpg	0	0,004	Col0	DMSO MS	AUX
DV1DMYFI01P012h.jpg	2	0,123	Col0	DMSO MS	AUX
DV1DMYFI01P022h.jpg	2	0,161	Col0	DMSO MS	AUX
DV1DMYFI01P032h.jpg	2	0,643	Col0	DMSO MS	AUX
DV2DMYFI01P012h.jpg	2	0,183	Col0	DMSO MS	AUX

DV2DMYFI01P022h.jpg	2	0,258	Col0	DMSO MS	AUX
DV2DMYFI01P032h.jpg	2	0,177	Col0	DMSO MS	AUX
DV2DMYFI01P042h.jpg	2	0,165	Col0	DMSO MS	AUX
DVDMYFI01P012h.jpg	2	0,054	Col0	DMSO MS	AUX
DVDMYFI01P022h.jpg	2	0,093	Col0	DMSO MS	AUX
DVDMYFI01P032h.jpg	2	0,15	Col0	DMSO MS	AUX
DVDMYFI01P042h.jpg	2	0,074	Col0	DMSO MS	AUX
DV1DMYFI01P014h.jpg	4	0,949	Col0	DMSO MS	AUX
DV1DMYFI01P024h.jpg	4	0,486	Col0	DMSO MS	AUX
DV1DMYFI01P034h.jpg	4	0,022	Col0	DMSO MS	AUX
DV1DMYFI01P044h.jpg	4	0,246	Col0	DMSO MS	AUX
DV2DMYFI01P014h.jpg	4	0,492	Col0	DMSO MS	AUX
DV2DMYFI01P024h.jpg	4	0,189	Col0	DMSO MS	AUX
DV2DMYFI01P034h.jpg	4	1,589	Col0	DMSO MS	AUX
DVDMYFI01P014h.jpg	4	0,041	Col0	DMSO MS	AUX
DVDMYFI01P024h.jpg	4	0,487	Col0	DMSO MS	AUX
DVDMYFI01P034h.jpg	4	0,01	Col0	DMSO MS	AUX
DVDMYFI01P044h.jpg	4	0,451	Col0	DMSO MS	AUX
DV1DMYFI01P016h.jpg	6	0,033	Col0	DMSO MS	AUX
DV1DMYFI01P026h.jpg	6	0,213	Col0	DMSO MS	AUX
DV1DMYFI01P036h.jpg	6	0,184	Col0	DMSO MS	AUX
DV1DMYFI01P046h.jpg	6	0,033	Col0	DMSO MS	AUX
DV2DMYFI01P016h.jpg	6	0,076	Col0	DMSO MS	AUX
DV2DMYFI01P026h.jpg	6	0,007	Col0	DMSO MS	AUX
DV2DMYFI01P036h.jpg	6	0,35	Col0	DMSO MS	AUX
DV2DMYFI01P046h.jpg	6	0,769	Col0	DMSO MS	AUX
DVDMYFI01P016h.jpg	6	0,077	Col0	DMSO MS	AUX
DVDMYFI01P026h.jpg	6	0,289	Col0	DMSO MS	AUX
DVDMYFI01P036h.jpg	6	0,057	Col0	DMSO MS	AUX
DVDMYFI01P046h.jpg	6	0,743	Col0	DMSO MS	AUX
DV1DMYFI01P018h.jpg	8	1,615	Col0	DMSO MS	AUX

DV1DMYFI01P028h.jpg	8	0,685	Col0	DMSO MS	AUX
DV1DMYFI01P038h.jpg	8	1,584	Col0	DMSO MS	AUX
DV1DMYFI01P048h.jpg	8	0,226	Col0	DMSO MS	AUX
DV2DMYFI01P018h.jpg	8	0,171	Col0	DMSO MS	AUX
DV2DMYFI01P028h.jpg	8	1,334	Col0	DMSO MS	AUX
DV2DMYFI01P038h.jpg	8	0,15	Col0	DMSO MS	AUX
DVDMFI01P018h.jpg	8	0,604	Col0	DMSO MS	AUX
DVDMFI01P028h.jpg	8	0,164	Col0	DMSO MS	AUX
DVDMFI01P038h.jpg	8	0,259	Col0	DMSO MS	AUX
DVDMFI01P048h.jpg	8	0,103	Col0	DMSO MS	AUX
KHYFI01P010h.jpg	0	0,451	*the 1-1*	DMSO SORB	AUX
KHYFI01P020h.jpg	0	0,16	*the 1-1*	DMSO SORB	AUX
KHYFI01P030h.jpg	0	0,136	*the 1-1*	DMSO SORB	AUX
KHYFI01P040h.jpg	0	0,142	*the 1-1*	DMSO SORB	AUX
KHYFI01P010h.jpg	0	0,603	*the 1-1*	DMSO SORB	AUX
KHYFI01P020h.jpg	0	0,204	*the 1-1*	DMSO SORB	AUX
KHYFI01P030h.jpg	0	0,419	*the 1-1*	DMSO SORB	AUX
KHYFI01P040h.jpg	0	0,21	*the 1-1*	DMSO SORB	AUX
KHYFI01P010h.jpg	0	0,143	*the 1-1*	DMSO SORB	AUX
KHYFI01P020h.jpg	0	0,095	*the 1-1*	DMSO SORB	AUX
KHYFI01P030h.jpg	0	0,262	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P012h.jpg	2	0,364	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P022h.jpg	2	0,156	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P032h.jpg	2	0,088	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P042h.jpg	2	0,197	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P022h.jpg	2	0,096	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P032h.jpg	2	0,064	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P042h.jpg	2	0,215	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P012h.jpg	2	0,159	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P022h.jpg	2	0,197	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P032h.jpg	2	0,141	*the 1-1*	DMSO SORB	AUX

KHDSYFI01P042h.jpg	2	0,149	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P014h.jpg	4	2,755	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P024h.jpg	4	2,154	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P034h.jpg	4	1,69	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P044h.jpg	4	1,019	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P014h.jpg	4	0,18	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P024h.jpg	4	0,026	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P014h.jpg	4	0,312	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P024h.jpg	4	0,436	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P034h.jpg	4	0,275	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P044h.jpg	4	0,171	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P016h.jpg	6	1,4	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P026h.jpg	6	2,169	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P036h.jpg	6	2,25	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P016h.jpg	6	0,15	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P026h.jpg	6	0,34	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P036h.jpg	6	0,632	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P046h.jpg	6	0,588	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P016h.jpg	6	0,321	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P026h.jpg	6	0,222	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P018h.jpg	8	1,675	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P028h.jpg	8	2,025	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P038h.jpg	8	1,712	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P048h.jpg	8	1,65	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P018h.jpg	8	0,236	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P028h.jpg	8	0,273	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P038h.jpg	8	0,599	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P018h.jpg	8	0,225	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P028h.jpg	8	0,61	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P038h.jpg	8	0,3	*the 1-1*	DMSO SORB	AUX
KHDSYFI01P048h.jpg	8	0,214	*the 1-1*	DMSO SORB	AUX

LHYFI01P010h.jpg	0	0,045	*the 1-4*	DMSO SORB	AUX
LHYFI01P020h.jpg	0	0,116	*the 1-4*	DMSO SORB	AUX
LHYFI01P030h.jpg	0	1,246	*the 1-4*	DMSO SORB	AUX
LHYFI01P040h.jpg	0	0,06	*the 1-4*	DMSO SORB	AUX
LHYFI01P010h.jpg	0	0,072	*the 1-4*	DMSO SORB	AUX
LHYFI01P020h.jpg	0	0,1	*the 1-4*	DMSO SORB	AUX
LHYFI01P030h.jpg	0	0,005	*the 1-4*	DMSO SORB	AUX
LHYFI01P010h.jpg	0	0,532	*the 1-4*	DMSO SORB	AUX
LHYFI01P020h.jpg	0	0,165	*the 1-4*	DMSO SORB	AUX
LHYFI01P030h.jpg	0	0,106	*the 1-4*	DMSO SORB	AUX
LHYFI01P040h.jpg	0	0,093	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P012h.jpg	2	0,157	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P022h.jpg	2	0,069	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P032h.jpg	2	0,233	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P042h.jpg	2	0,059	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P012h.jpg	2	0,196	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P022h.jpg	2	0,12	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P032h.jpg	2	0,18	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P012h.jpg	2	0,125	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P022h.jpg	2	0,549	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P014h.jpg	4	1,793	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P024h.jpg	4	2,344	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P034h.jpg	4	3,038	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P014h.jpg	4	0,171	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P014h.jpg	4	0,101	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P024h.jpg	4	0,03	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P034h.jpg	4	0,09	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P044h.jpg	4	0,041	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P016h.jpg	6	1,664	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P026h.jpg	6	2,444	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P036h.jpg	6	1,265	*the 1-4*	DMSO SORB	AUX

LHDSYFI01P016h.jpg	6	0,091	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P016h.jpg	6	0,019	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P026h.jpg	6	0,384	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P036h.jpg	6	0,039	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P046h.jpg	6	0,044	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P018h.jpg	8	2,877	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P028h.jpg	8	2,723	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P038h.jpg	8	2,799	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P018h.jpg	8	0,025	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P028h.jpg	8	0,253	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P018h.jpg	8	0,086	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P028h.jpg	8	0,878	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P038h.jpg	8	0,018	*the 1-4*	DMSO SORB	AUX
LHDSYFI01P048h.jpg	8	0,086	*the 1-4*	DMSO SORB	AUX
DV1YFI01P010h.jpg	0	0,412	Col0	DMSO SORB	AUX
DV1YFI01P020h.jpg	0	1,197	Col0	DMSO SORB	AUX
DV1YFI01P030h.jpg	0	0,663	Col0	DMSO SORB	AUX
DV1YFI01P040h.jpg	0	0,135	Col0	DMSO SORB	AUX
DV2YFI01P010h.jpg	0	0,407	Col0	DMSO SORB	AUX
DV2YFI01P020h.jpg	0	0,762	Col0	DMSO SORB	AUX
DV2YFI01P030h.jpg	0	0,357	Col0	DMSO SORB	AUX
DV2YFI01P040h.jpg	0	0,774	Col0	DMSO SORB	AUX
DVYFI01P010h.jpg	0	0,003	Col0	DMSO SORB	AUX
DVYFI01P020h.jpg	0	0,007	Col0	DMSO SORB	AUX
DVYFI01P030h.jpg	0	0,002	Col0	DMSO SORB	AUX
DVYFI01P040h.jpg	0	0,004	Col0	DMSO SORB	AUX
DV1DSYFI01P012h.jpg	2	0,55	Col0	DMSO SORB	AUX
DV1DSYFI01P022h.jpg	2	1,282	Col0	DMSO SORB	AUX
DV1DSYFI01P032h.jpg	2	1,433	Col0	DMSO SORB	AUX
DV2DSYFI01P012h.jpg	2	0,568	Col0	DMSO SORB	AUX
DV2DSYFI01P022h.jpg	2	1,455	Col0	DMSO SORB	AUX

DV2DSYFI01P032h.jpg	2	0,423	Col0	DMSO SORB	AUX
DV2DSYFI01P042h.jpg	2	0,845	Col0	DMSO SORB	AUX
DVDSYFI01P012h.jpg	2	1,681	Col0	DMSO SORB	AUX
DVDSYFI01P022h.jpg	2	0,733	Col0	DMSO SORB	AUX
DVDSYFI01P032h.jpg	2	1,334	Col0	DMSO SORB	AUX
DVDSYFI01P042h.jpg	2	1,338	Col0	DMSO SORB	AUX
DV1DSYFI01P014h.jpg	4	4,893	Col0	DMSO SORB	AUX
DV1DSYFI01P024h.jpg	4	1,052	Col0	DMSO SORB	AUX
DV1DSYFI01P034h.jpg	4	0,18	Col0	DMSO SORB	AUX
DV1DSYFI01P044h.jpg	4	0,088	Col0	DMSO SORB	AUX
DV2DSYFI01P014h.jpg	4	2,112	Col0	DMSO SORB	AUX
DV2DSYFI01P024h.jpg	4	1,274	Col0	DMSO SORB	AUX
DV2DSYFI01P034h.jpg	4	2,74	Col0	DMSO SORB	AUX
DVDSYFI01P014h.jpg	4	0,178	Col0	DMSO SORB	AUX
DVDSYFI01P024h.jpg	4	0,716	Col0	DMSO SORB	AUX
DVDSYFI01P034h.jpg	4	0,264	Col0	DMSO SORB	AUX
DVDSYFI01P044h.jpg	4	0,125	Col0	DMSO SORB	AUX
DV1DSYFI01P016h.jpg	6	0,508	Col0	DMSO SORB	AUX
DV1DSYFI01P026h.jpg	6	0,159	Col0	DMSO SORB	AUX
DV1DSYFI01P036h.jpg	6	0,473	Col0	DMSO SORB	AUX
DV2DSYFI01P016h.jpg	6	1,433	Col0	DMSO SORB	AUX
DV2DSYFI01P026h.jpg	6	0,709	Col0	DMSO SORB	AUX
DV2DSYFI01P036h.jpg	6	0,306	Col0	DMSO SORB	AUX
DV2DSYFI01P046h.jpg	6	0,282	Col0	DMSO SORB	AUX
DVDSYFI01P016h.jpg	6	0,322	Col0	DMSO SORB	AUX
DVDSYFI01P026h.jpg	6	0,188	Col0	DMSO SORB	AUX
DVDSYFI01P036h.jpg	6	0,351	Col0	DMSO SORB	AUX
DVDSYFI01P046h.jpg	6	0,196	Col0	DMSO SORB	AUX
DV1DSYFI01P018h.jpg	8	0,606	Col0	DMSO SORB	AUX
DV1DSYFI01P028h.jpg	8	1,232	Col0	DMSO SORB	AUX
DV2DSYFI01P018h.jpg	8	0,201	Col0	DMSO SORB	AUX

DV2DSYFI01P028h.jpg	8	1,367	Col0	DMSO SORB	AUX
DV2DSYFI01P038h.jpg	8	0,553	Col0	DMSO SORB	AUX
DV2DSYFI01P048h.jpg	8	0,61	Col0	DMSO SORB	AUX
DVDSFI01P018h.jpg	8	0,37	Col0	DMSO SORB	AUX
DVDSFI01P028h.jpg	8	0,133	Col0	DMSO SORB	AUX
DVDSFI01P038h.jpg	8	0,445	Col0	DMSO SORB	AUX
KHYFI01P010h.jpg	0	0,451	*the 1-1*	ISX MS	AUX
KHYFI01P020h.jpg	0	0,16	*the 1-1*	ISX MS	AUX
KHYFI01P030h.jpg	0	0,136	*the 1-1*	ISX MS	AUX
KHYFI01P040h.jpg	0	0,142	*the 1-1*	ISX MS	AUX
KHYFI01P010h.jpg	0	0,603	*the 1-1*	ISX MS	AUX
KHYFI01P020h.jpg	0	0,204	*the 1-1*	ISX MS	AUX
KHYFI01P030h.jpg	0	0,419	*the 1-1*	ISX MS	AUX
KHYFI01P040h.jpg	0	0,21	*the 1-1*	ISX MS	AUX
KHYFI01P010h.jpg	0	0,143	*the 1-1*	ISX MS	AUX
KHYFI01P020h.jpg	0	0,095	*the 1-1*	ISX MS	AUX
KHYFI01P030h.jpg	0	0,262	*the 1-1*	ISX MS	AUX
KHIMYFI01P012h.jpg	2	0,091	*the 1-1*	ISX MS	AUX
KHIMYFI01P022h.jpg	2	0,344	*the 1-1*	ISX MS	AUX
KHIMYFI01P032h.jpg	2	0,394	*the 1-1*	ISX MS	AUX
KHIMYFI01P042h.jpg	2	0,575	*the 1-1*	ISX MS	AUX
KHIMYFI01P012h.jpg	2	0,257	*the 1-1*	ISX MS	AUX
KHIMYFI01P022h.jpg	2	0,186	*the 1-1*	ISX MS	AUX
KHIMYFI01P012h.jpg	2	0,433	*the 1-1*	ISX MS	AUX
KHIMYFI01P022h.jpg	2	0,317	*the 1-1*	ISX MS	AUX
KHIMYFI01P032h.jpg	2	0,249	*the 1-1*	ISX MS	AUX
KHIMYFI01P014h.jpg	4	2,084	*the 1-1*	ISX MS	AUX
KHIMYFI01P024h.jpg	4	1,889	*the 1-1*	ISX MS	AUX
KHIMYFI01P034h.jpg	4	1,821	*the 1-1*	ISX MS	AUX
KHIMYFI01P044h.jpg	4	1,877	*the 1-1*	ISX MS	AUX
KHIMYFI01P014h.jpg	4	0,948	*the 1-1*	ISX MS	AUX

KHIMYFI01P024h.jpg	4	0,098	*the 1-1*	ISX MS	AUX
KHIMYFI01P034h.jpg	4	0,241	*the 1-1*	ISX MS	AUX
KHIMYFI01P044h.jpg	4	0,106	*the 1-1*	ISX MS	AUX
KHIMYFI01P014h.jpg	4	0,242	*the 1-1*	ISX MS	AUX
KHIMYFI01P024h.jpg	4	0,074	*the 1-1*	ISX MS	AUX
KHIMYFI01P034h.jpg	4	0,474	*the 1-1*	ISX MS	AUX
KHIMYFI01P044h.jpg	4	0,032	*the 1-1*	ISX MS	AUX
KHIMYFI01P016h.jpg	6	2,12	*the 1-1*	ISX MS	AUX
KHIMYFI01P026h.jpg	6	2,048	*the 1-1*	ISX MS	AUX
KHIMYFI01P036h.jpg	6	3,986	*the 1-1*	ISX MS	AUX
KHIMYFI01P046h.jpg	6	3,193	*the 1-1*	ISX MS	AUX
KHIMYFI01P016h.jpg	6	0,002	*the 1-1*	ISX MS	AUX
KHIMYFI01P026h.jpg	6	0,239	*the 1-1*	ISX MS	AUX
KHIMYFI01P036h.jpg	6	0,473	*the 1-1*	ISX MS	AUX
KHIMYFI01P046h.jpg	6	0,388	*the 1-1*	ISX MS	AUX
KHIMYFI01P056h.jpg	6	0,201	*the 1-1*	ISX MS	AUX
KHIMYFI01P066h.jpg	6	0,416	*the 1-1*	ISX MS	AUX
KHIMYFI01P016h.jpg	6	0,028	*the 1-1*	ISX MS	AUX
KHIMYFI01P026h.jpg	6	0,513	*the 1-1*	ISX MS	AUX
KHIMYFI01P036h.jpg	6	0,122	*the 1-1*	ISX MS	AUX
KHIMYFI01P018h.jpg	8	3,261	*the 1-1*	ISX MS	AUX
KHIMYFI01P028h.jpg	8	1,93	*the 1-1*	ISX MS	AUX
KHIMYFI01P038h.jpg	8	2,978	*the 1-1*	ISX MS	AUX
KHIMYFI01P048h.jpg	8	2,84	*the 1-1*	ISX MS	AUX
KHIMYFI01P018h.jpg	8	0,005	*the 1-1*	ISX MS	AUX
KHIMYFI01P028h.jpg	8	0,142	*the 1-1*	ISX MS	AUX
KHIMYFI01P038h.jpg	8	0,703	*the 1-1*	ISX MS	AUX
KHIMYFI01P018h.jpg	8	0,211	*the 1-1*	ISX MS	AUX
KHIMYFI01P028h.jpg	8	0,309	*the 1-1*	ISX MS	AUX
KHIMYFI01P038h.jpg	8	0,625	*the 1-1*	ISX MS	AUX
KHIMYFI01P048h.jpg	8	0,117	*the 1-1*	ISX MS	AUX

LHYFI01P010h.jpg	0	0,045	*the 1-4*	ISX MS	AUX
LHYFI01P020h.jpg	0	0,116	*the 1-4*	ISX MS	AUX
LHYFI01P030h.jpg	0	1,246	*the 1-4*	ISX MS	AUX
LHYFI01P040h.jpg	0	0,06	*the 1-4*	ISX MS	AUX
LHYFI01P010h.jpg	0	0,072	*the 1-4*	ISX MS	AUX
LHYFI01P020h.jpg	0	0,1	*the 1-4*	ISX MS	AUX
LHYFI01P030h.jpg	0	0,005	*the 1-4*	ISX MS	AUX
LHYFI01P010h.jpg	0	0,532	*the 1-4*	ISX MS	AUX
LHYFI01P020h.jpg	0	0,165	*the 1-4*	ISX MS	AUX
LHYFI01P030h.jpg	0	0,106	*the 1-4*	ISX MS	AUX
LHYFI01P040h.jpg	0	0,093	*the 1-4*	ISX MS	AUX
LHIMYFI01P012h.jpg	2	0,345	*the 1-4*	ISX MS	AUX
LHIMYFI01P022h.jpg	2	0,254	*the 1-4*	ISX MS	AUX
LHIMYFI01P032h.jpg	2	0,438	*the 1-4*	ISX MS	AUX
LHISYFI01P012h.jpg	2	0,06	*the 1-4*	ISX MS	AUX
LHIMYFI01P012h.jpg	2	0,091	*the 1-4*	ISX MS	AUX
LHIMYFI01P012h.jpg	2	0,071	*the 1-4*	ISX MS	AUX
LHIMYFI01P022h.jpg	2	0,315	*the 1-4*	ISX MS	AUX
LHIMYFI01P032h.jpg	2	0,029	*the 1-4*	ISX MS	AUX
LHIMYFI01P042h.jpg	2	0,217	*the 1-4*	ISX MS	AUX
LHIMYFI01P014h.jpg	4	0,62	*the 1-4*	ISX MS	AUX
LHIMYFI01P024h.jpg	4	3,271	*the 1-4*	ISX MS	AUX
LHIMYFI01P034h.jpg	4	2,894	*the 1-4*	ISX MS	AUX
LHISYFI01P014h.jpg	4	2,023	*the 1-4*	ISX MS	AUX
LHIMYFI01P014h.jpg	4	0,016	*the 1-4*	ISX MS	AUX
LHIMYFI01P014h.jpg	4	0,142	*the 1-4*	ISX MS	AUX
LHIMYFI01P024h.jpg	4	0,187	*the 1-4*	ISX MS	AUX
LHIMYFI01P034h.jpg	4	0,221	*the 1-4*	ISX MS	AUX
LHIMYFI01P016h.jpg	6	2,714	*the 1-4*	ISX MS	AUX
LHIMYFI01P026h.jpg	6	4,347	*the 1-4*	ISX MS	AUX
LHIMYFI01P036h.jpg	6	2,711	*the 1-4*	ISX MS	AUX

LHIMYFI01P016h.jpg	6	0,128	*the 1-4*	ISX MS	AUX
LHIMYFI01P026h.jpg	6	0,092	*the 1-4*	ISX MS	AUX
LHIMYFI01P016h.jpg	6	0,133	*the 1-4*	ISX MS	AUX
LHIMYFI01P026h.jpg	6	0,204	*the 1-4*	ISX MS	AUX
LHIMYFI01P036h.jpg	6	0,369	*the 1-4*	ISX MS	AUX
LHIMYFI01P018h.jpg	8	4,296	*the 1-4*	ISX MS	AUX
LHIMYFI01P028h.jpg	8	2,232	*the 1-4*	ISX MS	AUX
LHIMYFI01P038h.jpg	8	3,121	*the 1-4*	ISX MS	AUX
LHIMYFI01P048h.jpg	8	1,875	*the 1-4*	ISX MS	AUX
LHIMYFI01P018h.jpg	8	0,692	*the 1-4*	ISX MS	AUX
LHIMYFI01P028h.jpg	8	0,204	*the 1-4*	ISX MS	AUX
LHIMYFI01P018h.jpg	8	0,187	*the 1-4*	ISX MS	AUX
LHIMYFI01P028h.jpg	8	0,104	*the 1-4*	ISX MS	AUX
LHIMYFI01P038h.jpg	8	0,277	*the 1-4*	ISX MS	AUX
LHIMYFI01P048h.jpg	8	0,349	*the 1-4*	ISX MS	AUX
DV1YFI01P010h.jpg	0	0,412	Col0	ISX MS	AUX
DV1YFI01P020h.jpg	0	1,197	Col0	ISX MS	AUX
DV1YFI01P030h.jpg	0	0,663	Col0	ISX MS	AUX
DV1YFI01P040h.jpg	0	0,135	Col0	ISX MS	AUX
DV2YFI01P010h.jpg	0	0,407	Col0	ISX MS	AUX
DV2YFI01P020h.jpg	0	0,762	Col0	ISX MS	AUX
DV2YFI01P030h.jpg	0	0,357	Col0	ISX MS	AUX
DV2YFI01P040h.jpg	0	0,774	Col0	ISX MS	AUX
DVYFI01P010h.jpg	0	0,003	Col0	ISX MS	AUX
DVYFI01P020h.jpg	0	0,007	Col0	ISX MS	AUX
DVYFI01P030h.jpg	0	0,002	Col0	ISX MS	AUX
DVYFI01P040h.jpg	0	0,004	Col0	ISX MS	AUX
DV1IMYFI01P012h.jpg	2	0,766	Col0	ISX MS	AUX
DV1IMYFI01P022h.jpg	2	2,43	Col0	ISX MS	AUX
DV1IMYFI01P032h.jpg	2	0,378	Col0	ISX MS	AUX
DV1IMYFI01P042h.jpg	2	0,512	Col0	ISX MS	AUX

DV2IMYFI01P012h.jpg	2	1,036	Col0	ISX MS	AUX
DV2IMYFI01P022h.jpg	2	1,597	Col0	ISX MS	AUX
DV2IMYFI01P032h.jpg	2	0,153	Col0	ISX MS	AUX
DV2IMYFI01P042h.jpg	2	0,198	Col0	ISX MS	AUX
DVIMYFI01P012h.jpg	2	0,151	Col0	ISX MS	AUX
DVIMYFI01P022h.jpg	2	0,166	Col0	ISX MS	AUX
DVIMYFI01P032h.jpg	2	1,107	Col0	ISX MS	AUX
DVIMYFI01P042h.jpg	2	0,36	Col0	ISX MS	AUX
DV1IMYFI01P014h.jpg	4	1,451	Col0	ISX MS	AUX
DV1IMYFI01P024h.jpg	4	0,241	Col0	ISX MS	AUX
DV1IMYFI01P034h.jpg	4	0,111	Col0	ISX MS	AUX
DV1IMYFI01P044h.jpg	4	0,655	Col0	ISX MS	AUX
DV2IMYFI01P014h.jpg	4	0,149	Col0	ISX MS	AUX
DV2IMYFI01P024h.jpg	4	0,355	Col0	ISX MS	AUX
DV2IMYFI01P034h.jpg	4	0,166	Col0	ISX MS	AUX
DV2IMYFI01P044h.jpg	4	1,087	Col0	ISX MS	AUX
DVIMYFI01P014h.jpg	4	0,146	Col0	ISX MS	AUX
DVIMYFI01P024h.jpg	4	0,32	Col0	ISX MS	AUX
DVIMYFI01P034h.jpg	4	0,356	Col0	ISX MS	AUX
DVIMYFI01P044h.jpg	4	0,43	Col0	ISX MS	AUX
DV1IMYFI01P016h.jpg	6	0,389	Col0	ISX MS	AUX
DV1IMYFI01P026h.jpg	6	1,555	Col0	ISX MS	AUX
DV1IMYFI01P036h.jpg	6	0,429	Col0	ISX MS	AUX
DV1IMYFI01P046h.jpg	6	0,116	Col0	ISX MS	AUX
DV2IMYFI01P016h.jpg	6	0,329	Col0	ISX MS	AUX
DV2IMYFI01P026h.jpg	6	1,077	Col0	ISX MS	AUX
DV2IMYFI01P036h.jpg	6	0,488	Col0	ISX MS	AUX
DV2IMYFI01P046h.jpg	6	1,216	Col0	ISX MS	AUX
DVIMYFI01P016h.jpg	6	0,711	Col0	ISX MS	AUX
DVIMYFI01P026h.jpg	6	1,625	Col0	ISX MS	AUX
DVIMYFI01P036h.jpg	6	0,417	Col0	ISX MS	AUX

DVIMYFI01P046h.jpg	6	0,808	Col0	ISX MS	AUX
DV1IMYFI01P018h.jpg	8	0,764	Col0	ISX MS	AUX
DV1IMYFI01P028h.jpg	8	0,891	Col0	ISX MS	AUX
DV1IMYFI01P038h.jpg	8	0,771	Col0	ISX MS	AUX
DV1IMYFI01P048h.jpg	8	1,454	Col0	ISX MS	AUX
DV2IMYFI01P018h.jpg	8	0,268	Col0	ISX MS	AUX
DV2IMYFI01P028h.jpg	8	0,372	Col0	ISX MS	AUX
DV2IMYFI01P038h.jpg	8	0,706	Col0	ISX MS	AUX
DV2IMYFI01P048h.jpg	8	0,519	Col0	ISX MS	AUX
DVIMYFI01P018h.jpg	8	0,056	Col0	ISX MS	AUX
DVIMYFI01P028h.jpg	8	0,939	Col0	ISX MS	AUX
DVIMYFI01P038h.jpg	8	0,635	Col0	ISX MS	AUX
DVIMYFI01P048h.jpg	8	0,448	Col0	ISX MS	AUX
KHYFI01P010h.jpg	0	0,451	*the 1-1*	ISX SORB	AUX
KHYFI01P020h.jpg	0	0,16	*the 1-1*	ISX SORB	AUX
KHYFI01P030h.jpg	0	0,136	*the 1-1*	ISX SORB	AUX
KHYFI01P040h.jpg	0	0,142	*the 1-1*	ISX SORB	AUX
KHYFI01P010h.jpg	0	0,603	*the 1-1*	ISX SORB	AUX
KHYFI01P020h.jpg	0	0,204	*the 1-1*	ISX SORB	AUX
KHYFI01P030h.jpg	0	0,419	*the 1-1*	ISX SORB	AUX
KHYFI01P040h.jpg	0	0,21	*the 1-1*	ISX SORB	AUX
KHYFI01P010h.jpg	0	0,143	*the 1-1*	ISX SORB	AUX
KHYFI01P020h.jpg	0	0,095	*the 1-1*	ISX SORB	AUX
KHYFI01P030h.jpg	0	0,262	*the 1-1*	ISX SORB	AUX
KHISYFI01P012h.jpg	2	0,249	*the 1-1*	ISX SORB	AUX
KHISYFI01P022h.jpg	2	0,251	*the 1-1*	ISX SORB	AUX
KHISYFI01P032h.jpg	2	0,239	*the 1-1*	ISX SORB	AUX
KHISYFI01P042h.jpg	2	0,263	*the 1-1*	ISX SORB	AUX
KHISYFI01P012h.jpg	2	0,047	*the 1-1*	ISX SORB	AUX
KHISYFI01P022h.jpg	2	0,133	*the 1-1*	ISX SORB	AUX
KHISYFI01P032h.jpg	2	0,421	*the 1-1*	ISX SORB	AUX

KHISYFI01P042h.jpg	2	0,188	*the 1-1*	ISX SORB	AUX
KHISYFI01P012h.jpg	2	0,199	*the 1-1*	ISX SORB	AUX
KHISYFI01P022h.jpg	2	0,065	*the 1-1*	ISX SORB	AUX
KHISYFI01P032h.jpg	2	0,137	*the 1-1*	ISX SORB	AUX
KHISYFI01P014h.jpg	4	2,358	*the 1-1*	ISX SORB	AUX
KHISYFI01P024h.jpg	4	2,049	*the 1-1*	ISX SORB	AUX
KHISYFI01P034h.jpg	4	2,581	*the 1-1*	ISX SORB	AUX
KHISYFI01P044h.jpg	4	1,776	*the 1-1*	ISX SORB	AUX
KHISYFI01P014h.jpg	4	1,091	*the 1-1*	ISX SORB	AUX
KHISYFI01P024h.jpg	4	0,368	*the 1-1*	ISX SORB	AUX
KHISYFI01P034h.jpg	4	0,242	*the 1-1*	ISX SORB	AUX
KHISYFI01P014h.jpg	4	0,349	*the 1-1*	ISX SORB	AUX
KHISYFI01P024h.jpg	4	0,388	*the 1-1*	ISX SORB	AUX
KHISYFI01P034h.jpg	4	0,271	*the 1-1*	ISX SORB	AUX
KHISYFI01P044h.jpg	4	0,131	*the 1-1*	ISX SORB	AUX
KHISYFI01P016h.jpg	6	1,14	*the 1-1*	ISX SORB	AUX
KHISYFI01P026h.jpg	6	2,474	*the 1-1*	ISX SORB	AUX
KHISYFI01P036h.jpg	6	1,404	*the 1-1*	ISX SORB	AUX
KHISYFI01P046h.jpg	6	2,002	*the 1-1*	ISX SORB	AUX
KHISYFI01P016h.jpg	6	0,338	*the 1-1*	ISX SORB	AUX
KHISYFI01P026h.jpg	6	0,22	*the 1-1*	ISX SORB	AUX
KHISYFI01P036h.jpg	6	0,003	*the 1-1*	ISX SORB	AUX
KHISYFI01P016h.jpg	6	0,087	*the 1-1*	ISX SORB	AUX
KHISYFI01P026h.jpg	6	0,29	*the 1-1*	ISX SORB	AUX
KHISYFI01P036h.jpg	6	0,239	*the 1-1*	ISX SORB	AUX
KHISYFI01P018h.jpg	8	2,805	*the 1-1*	ISX SORB	AUX
KHISYFI01P028h.jpg	8	4,072	*the 1-1*	ISX SORB	AUX
KHISYFI01P038h.jpg	8	1,561	*the 1-1*	ISX SORB	AUX
KHISYFI01P048h.jpg	8	2,516	*the 1-1*	ISX SORB	AUX
KHISYFI01P018h.jpg	8	1,98E-04	*the 1-1*	ISX SORB	AUX
KHISYFI01P028h.jpg	8	0,126	*the 1-1*	ISX SORB	AUX

KHISYFI01P018h.jpg	8	0,278	*the 1-1*	ISX SORB	AUX
KHISYFI01P028h.jpg	8	0,115	*the 1-1*	ISX SORB	AUX
KHISYFI01P038h.jpg	8	0,538	*the 1-1*	ISX SORB	AUX
KHISYFI01P048h.jpg	8	0,148	*the 1-1*	ISX SORB	AUX
LHYFI01P010h.jpg	0	0,045	*the 1-4*	ISX SORB	AUX
LHYFI01P020h.jpg	0	0,116	*the 1-4*	ISX SORB	AUX
LHYFI01P030h.jpg	0	1,246	*the 1-4*	ISX SORB	AUX
LHYFI01P040h.jpg	0	0,06	*the 1-4*	ISX SORB	AUX
LHYFI01P010h.jpg	0	0,072	*the 1-4*	ISX SORB	AUX
LHYFI01P020h.jpg	0	0,1	*the 1-4*	ISX SORB	AUX
LHYFI01P030h.jpg	0	0,005	*the 1-4*	ISX SORB	AUX
LHYFI01P010h.jpg	0	0,532	*the 1-4*	ISX SORB	AUX
LHYFI01P020h.jpg	0	0,165	*the 1-4*	ISX SORB	AUX
LHYFI01P030h.jpg	0	0,106	*the 1-4*	ISX SORB	AUX
LHYFI01P040h.jpg	0	0,093	*the 1-4*	ISX SORB	AUX
LHISYFI01P012h.jpg	2	0,06	*the 1-4*	ISX SORB	AUX
LHISYFI01P022h.jpg	2	0,18	*the 1-4*	ISX SORB	AUX
LHISYFI01P032h.jpg	2	0,686	*the 1-4*	ISX SORB	AUX
LHISYFI01P042h.jpg	2	0,095	*the 1-4*	ISX SORB	AUX
LHISYFI01P012h.jpg	2	0,116	*the 1-4*	ISX SORB	AUX
LHISYFI01P012h.jpg	2	0,438	*the 1-4*	ISX SORB	AUX
LHISYFI01P022h.jpg	2	0,047	*the 1-4*	ISX SORB	AUX
LHISYFI01P032h.jpg	2	0,111	*the 1-4*	ISX SORB	AUX
LHISYFI01P014h.jpg	4	2,023	*the 1-4*	ISX SORB	AUX
LHISYFI01P024h.jpg	4	2,626	*the 1-4*	ISX SORB	AUX
LHISYFI01P034h.jpg	4	1,448	*the 1-4*	ISX SORB	AUX
LHISYFI01P044h.jpg	4	2,284	*the 1-4*	ISX SORB	AUX
LHISYFI01P014h.jpg	4	0,038	*the 1-4*	ISX SORB	AUX
LHISYFI01P014h.jpg	4	0,233	*the 1-4*	ISX SORB	AUX
LHISYFI01P024h.jpg	4	0,756	*the 1-4*	ISX SORB	AUX
LHISYFI01P016h.jpg	6	4,046	*the 1-4*	ISX SORB	AUX

LHISYFI01P026h.jpg	6	2,181	*the 1-4*	ISX SORB	AUX
LHISYFI01P036h.jpg	6	2,371	*the 1-4*	ISX SORB	AUX
LHISYFI01P046h.jpg	6	2,82	*the 1-4*	ISX SORB	AUX
LHISYFI01P016h.jpg	6	0,113	*the 1-4*	ISX SORB	AUX
LHISYFI01P026h.jpg	6	3,79E-04	*the 1-4*	ISX SORB	AUX
LHISYFI01P016h.jpg	6	0,177	*the 1-4*	ISX SORB	AUX
LHISYFI01P026h.jpg	6	0,286	*the 1-4*	ISX SORB	AUX
LHISYFI01P036h.jpg	6	0,767	*the 1-4*	ISX SORB	AUX
LHISYFI01P046h.jpg	6	0,116	*the 1-4*	ISX SORB	AUX
LHISYFI01P018h.jpg	8	3,258	*the 1-4*	ISX SORB	AUX
LHISYFI01P028h.jpg	8	1,93	*the 1-4*	ISX SORB	AUX
LHISYFI01P038h.jpg	8	2,435	*the 1-4*	ISX SORB	AUX
LHISYFI01P048h.jpg	8	1,387	*the 1-4*	ISX SORB	AUX
LHISYFI01P018h.jpg	8	0,123	*the 1-4*	ISX SORB	AUX
LHISYFI01P018h.jpg	8	0,147	*the 1-4*	ISX SORB	AUX
LHISYFI01P028h.jpg	8	0,49	*the 1-4*	ISX SORB	AUX
LHISYFI01P038h.jpg	8	0,175	*the 1-4*	ISX SORB	AUX
LHISYFI01P048h.jpg	8	0,069	*the 1-4*	ISX SORB	AUX
DV1YFI01P010h.jpg	0	0,412	Col0	ISX SORB	AUX
DV1YFI01P020h.jpg	0	1,197	Col0	ISX SORB	AUX
DV1YFI01P030h.jpg	0	0,663	Col0	ISX SORB	AUX
DV1YFI01P040h.jpg	0	0,135	Col0	ISX SORB	AUX
DV2YFI01P010h.jpg	0	0,407	Col0	ISX SORB	AUX
DV2YFI01P020h.jpg	0	0,762	Col0	ISX SORB	AUX
DV2YFI01P030h.jpg	0	0,357	Col0	ISX SORB	AUX
DV2YFI01P040h.jpg	0	0,774	Col0	ISX SORB	AUX
DVYFI01P010h.jpg	0	0,003	Col0	ISX SORB	AUX
DVYFI01P020h.jpg	0	0,007	Col0	ISX SORB	AUX
DVYFI01P030h.jpg	0	0,002	Col0	ISX SORB	AUX
DVYFI01P040h.jpg	0	0,004	Col0	ISX SORB	AUX
DV1ISYFI01P022h.jpg	2	0,216	Col0	ISX SORB	AUX

DV1ISYFI01P032h.jpg	2	1,667	Col0	ISX SORB	AUX
DV1ISYFI01P042h.jpg	2	0,718	Col0	ISX SORB	AUX
DV2ISYFI01P012h.jpg	2	0,503	Col0	ISX SORB	AUX
DV2ISYFI01P022h.jpg	2	0,423	Col0	ISX SORB	AUX
DV2ISYFI01P032h.jpg	2	0,488	Col0	ISX SORB	AUX
DV2ISYFI01P042h.jpg	2	1,681	Col0	ISX SORB	AUX
DVISYFI01P012h.jpg	2	0,08	Col0	ISX SORB	AUX
DVISYFI01P022h.jpg	2	0,082	Col0	ISX SORB	AUX
DVISYFI01P032h.jpg	2	0,591	Col0	ISX SORB	AUX
DVISYFI01P042h.jpg	2	0,419	Col0	ISX SORB	AUX
DV1ISYFI01P024h.jpg	4	0,458	Col0	ISX SORB	AUX
DV1ISYFI01P034h.jpg	4	1,859	Col0	ISX SORB	AUX
DV1ISYFI01P044h.jpg	4	1,077	Col0	ISX SORB	AUX
DV2ISYFI01P014h.jpg	4	0,416	Col0	ISX SORB	AUX
DV2ISYFI01P024h.jpg	4	0,57	Col0	ISX SORB	AUX
DV2ISYFI01P034h.jpg	4	0,189	Col0	ISX SORB	AUX
DVISYFI01P014h.jpg	4	0,488	Col0	ISX SORB	AUX
DVISYFI01P024h.jpg	4	0,163	Col0	ISX SORB	AUX
DVISYFI01P034h.jpg	4	0,124	Col0	ISX SORB	AUX
DVISYFI01P044h.jpg	4	0,077	Col0	ISX SORB	AUX
DV1ISYFI01P026h.jpg	6	1,253	Col0	ISX SORB	AUX
DV1ISYFI01P036h.jpg	6	1,436	Col0	ISX SORB	AUX
DV1ISYFI01P046h.jpg	6	0,454	Col0	ISX SORB	AUX
DV2ISYFI01P016h.jpg	6	1,114	Col0	ISX SORB	AUX
DV2ISYFI01P026h.jpg	6	1,344	Col0	ISX SORB	AUX
DV2ISYFI01P036h.jpg	6	1,158	Col0	ISX SORB	AUX
DV2ISYFI01P046h.jpg	6	0,25	Col0	ISX SORB	AUX
DVISYFI01P016h.jpg	6	0,922	Col0	ISX SORB	AUX
DVISYFI01P026h.jpg	6	0,794	Col0	ISX SORB	AUX
DVISYFI01P036h.jpg	6	0,927	Col0	ISX SORB	AUX
DVISYFI01P046h.jpg	6	0,489	Col0	ISX SORB	AUX

DV1ISYFI01P028h.jpg	8	0,736	Col0	ISX SORB	AUX
DV1ISYFI01P038h.jpg	8	0,503	Col0	ISX SORB	AUX
DV2ISYFI01P018h.jpg	8	0,865	Col0	ISX SORB	AUX
DV2ISYFI01P028h.jpg	8	2,178	Col0	ISX SORB	AUX
DV2ISYFI01P038h.jpg	8	2,619	Col0	ISX SORB	AUX
DVISYFI01P018h.jpg	8	0,421	Col0	ISX SORB	AUX
DVISYFI01P028h.jpg	8	0,107	Col0	ISX SORB	AUX
DVISYFI01P038h.jpg	8	0,52	Col0	ISX SORB	AUX
DVISYFI01P048h.jpg	8	1,032	Col0	ISX SORB	AUX
KAYFI01P010h.jpg	0	1,81E-04	*the 1-1*	DMSO MS	JA
KAYFI01P020h.jpg	0	2,14E-04	*the 1-1*	DMSO MS	JA
KAYFI01P030h.jpg	0	1,81E-04	*the 1-1*	DMSO MS	JA
KAYFI01P040h.jpg	0	0,276	*the 1-1*	DMSO MS	JA
KAYFI01P010h.jpg	0	1,65E-04	*the 1-1*	DMSO MS	JA
KAYFI01P020h.jpg	0	1,65E-04	*the 1-1*	DMSO MS	JA
KAYFI01P030h.jpg	0	1,81E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P012h.jpg	2	1,98E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P022h.jpg	2	0,082	*the 1-1*	DMSO MS	JA
KADMYFI01P032h.jpg	2	0,125	*the 1-1*	DMSO MS	JA
KADMYFI01P012h.jpg	2	1,81E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P022h.jpg	2	1,65E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P032h.jpg	2	0,05	*the 1-1*	DMSO MS	JA
KADMYFI01P042h.jpg	2	1,65E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P014h.jpg	4	2,30E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P024h.jpg	4	2,80E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P034h.jpg	4	1,98E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P044h.jpg	4	2,14E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P014h.jpg	4	1,48E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P024h.jpg	4	0,003	*the 1-1*	DMSO MS	JA
KADMYFI01P034h.jpg	4	1,48E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P044h.jpg	4	1,32E-04	*the 1-1*	DMSO MS	JA

KADMYFI01P016h.jpg	6	0,026	*the 1-1*	DMSO MS	JA
KADMYFI01P026h.jpg	6	2,30E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P036h.jpg	6	2,63E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P016h.jpg	6	1,48E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P026h.jpg	6	1,48E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P036h.jpg	6	0,045	*the 1-1*	DMSO MS	JA
KADMYFI01P046h.jpg	6	1,48E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P018h.jpg	8	0,257	*the 1-1*	DMSO MS	JA
KADMYFI01P028h.jpg	8	1,98E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P038h.jpg	8	0,011	*the 1-1*	DMSO MS	JA
KADMYFI01P018h.jpg	8	1,32E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P028h.jpg	8	1,32E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P038h.jpg	8	1,48E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P048h.jpg	8	1,32E-04	*the 1-1*	DMSO MS	JA
KADMYFI01P058h.jpg	8	1,48E-04	*the 1-1*	DMSO MS	JA
LAYFI01P010h.jpg	0	0,035	*the 1-4*	DMSO MS	JA
LAYFI01P020h.jpg	0	2,14E-04	*the 1-4*	DMSO MS	JA
LAYFI01P030h.jpg	0	2,14E-04	*the 1-4*	DMSO MS	JA
LAYFI01P040h.jpg	0	2,30E-04	*the 1-4*	DMSO MS	JA
LAYFI01P020h.jpg	0	0,001	*the 1-4*	DMSO MS	JA
LAYFI01P030h.jpg	0	0,001	*the 1-4*	DMSO MS	JA
LAYFI01P040h.jpg	0	7,74E-04	*the 1-4*	DMSO MS	JA
LAYFI01P050h.jpg	0	0,038	*the 1-4*	DMSO MS	JA
LADMYFI01P012h.jpg	2	2,14E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P022h.jpg	2	1,81E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P032h.jpg	2	5,93E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P042h.jpg	2	0,118	*the 1-4*	DMSO MS	JA
LADMYFI01P012h.jpg	2	6,58E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P022h.jpg	2	7,24E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P014h.jpg	4	1,98E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P024h.jpg	4	2,14E-04	*the 1-4*	DMSO MS	JA

LADMYFI01P034h.jpg	4	0,16	*the 1-4*	DMSO MS	JA
LADMYFI01P014h.jpg	4	0,009	*the 1-4*	DMSO MS	JA
LADMYFI01P024h.jpg	4	6,58E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P016h.jpg	6	2,47E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P026h.jpg	6	0,156	*the 1-4*	DMSO MS	JA
LADMYFI01P036h.jpg	6	6,25E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P046h.jpg	6	1,98E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P016h.jpg	6	6,58E-05	*the 1-4*	DMSO MS	JA
LADMYFI01P026h.jpg	6	6,58E-05	*the 1-4*	DMSO MS	JA
LADMYFI01P036h.jpg	6	6,58E-05	*the 1-4*	DMSO MS	JA
LADMYFI01P046h.jpg	6	6,58E-05	*the 1-4*	DMSO MS	JA
LADMYFI01P018h.jpg	8	2,30E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P028h.jpg	8	0,031	*the 1-4*	DMSO MS	JA
LADMYFI01P038h.jpg	8	2,14E-04	*the 1-4*	DMSO MS	JA
LADMYFI01P018h.jpg	8	6,58E-05	*the 1-4*	DMSO MS	JA
LADMYFI01P028h.jpg	8	6,58E-05	*the 1-4*	DMSO MS	JA
LADMYFI01P038h.jpg	8	6,58E-05	*the 1-4*	DMSO MS	JA
JYYFI01P010h.jpg	0	1,48E-04	Col0	DMSO MS	JA
JYYFI01P020h.jpg	0	1,48E-04	Col0	DMSO MS	JA
JYYFI01P010h.jpg	0	4,28E-04	Col0	DMSO MS	JA
JYYFI01P020h.jpg	0	4,44E-04	Col0	DMSO MS	JA
JYYFI01P010h.jpg	0	2,14E-04	Col0	DMSO MS	JA
JYYFI01P020h.jpg	0	0,002	Col0	DMSO MS	JA
JYYFI01P030h.jpg	0	1,98E-04	Col0	DMSO MS	JA
JYYFI01P040h.jpg	0	1,65E-04	Col0	DMSO MS	JA
JYDMYFI01P012h.jpg	2	0,421	Col0	DMSO MS	JA
JYDMYFI01P022h.jpg	2	6,25E-04	Col0	DMSO MS	JA
JYDMYFI01P012h.jpg	2	4,61E-04	Col0	DMSO MS	JA
JYDMYFI01P022h.jpg	2	4,44E-04	Col0	DMSO MS	JA
JYDMYFI01P012h.jpg	2	1,81E-04	Col0	DMSO MS	JA
JYDMYFI01P022h.jpg	2	1,81E-04	Col0	DMSO MS	JA

JYDMYFI01P014h.jpg	4	0,001	Col0	DMSO MS	JA
JYDMYFI01P024h.jpg	4	0,003	Col0	DMSO MS	JA
JYDMYFI01P014h.jpg	4	4,77E-04	Col0	DMSO MS	JA
JYDMYFI01P024h.jpg	4	0,045	Col0	DMSO MS	JA
JYDMYFI01P016h.jpg	6	6,42E-04	Col0	DMSO MS	JA
JYDMYFI01P026h.jpg	6	6,58E-04	Col0	DMSO MS	JA
JYDMYFI01P016h.jpg	6	4,61E-04	Col0	DMSO MS	JA
JYDMYFI01P026h.jpg	6	4,61E-04	Col0	DMSO MS	JA
JYDMYFI01P018h.jpg	8	5,76E-04	Col0	DMSO MS	JA
JYDMYFI01P028h.jpg	8	6,42E-04	Col0	DMSO MS	JA
JYDMYFI01P018h.jpg	8	0,005	Col0	DMSO MS	JA
JYDMYFI01P028h.jpg	8	4,94E-04	Col0	DMSO MS	JA
JYDMYFI01P038h.jpg	8	0,01	Col0	DMSO MS	JA
KAYFI01P010h.jpg	0	1,81E-04	*the 1-1*	DMSO SORB	JA
KAYFI01P020h.jpg	0	2,14E-04	*the 1-1*	DMSO SORB	JA
KAYFI01P030h.jpg	0	1,81E-04	*the 1-1*	DMSO SORB	JA
KAYFI01P040h.jpg	0	0,276	*the 1-1*	DMSO SORB	JA
KAYFI01P010h.jpg	0	1,65E-04	*the 1-1*	DMSO SORB	JA
KAYFI01P020h.jpg	0	1,65E-04	*the 1-1*	DMSO SORB	JA
KAYFI01P030h.jpg	0	1,81E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P012h.jpg	2	0,217	*the 1-1*	DMSO SORB	JA
KADSYFI01P022h.jpg	2	2,094	*the 1-1*	DMSO SORB	JA
KADSYFI01P032h.jpg	2	0,09	*the 1-1*	DMSO SORB	JA
KADSYFI01P042h.jpg	2	2,14E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P022h.jpg	2	1,65E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P032h.jpg	2	1,65E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P014h.jpg	4	0,084	*the 1-1*	DMSO SORB	JA
KADSYFI01P024h.jpg	4	7,08E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P034h.jpg	4	0,169	*the 1-1*	DMSO SORB	JA
KADSYFI01P014h.jpg	4	1,48E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P024h.jpg	4	1,32E-04	*the 1-1*	DMSO SORB	JA

KADSYFI01P034h.jpg	4	1,32E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P016h.jpg	6	0,647	*the 1-1*	DMSO SORB	JA
KADSYFI01P026h.jpg	6	0,002	*the 1-1*	DMSO SORB	JA
KADSYFI01P016h.jpg	6	1,48E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P026h.jpg	6	1,48E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P036h.jpg	6	1,65E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P046h.jpg	6	1,48E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P018h.jpg	8	2,47E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P028h.jpg	8	2,63E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P038h.jpg	8	2,80E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P018h.jpg	8	1,65E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P028h.jpg	8	1,65E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P038h.jpg	8	1,65E-04	*the 1-1*	DMSO SORB	JA
KADSYFI01P048h.jpg	8	1,65E-04	*the 1-1*	DMSO SORB	JA
LAYFI01P010h.jpg	0	0,035	*the 1-4*	DMSO SORB	JA
LAYFI01P020h.jpg	0	2,14E-04	*the 1-4*	DMSO SORB	JA
LAYFI01P030h.jpg	0	2,14E-04	*the 1-4*	DMSO SORB	JA
LAYFI01P040h.jpg	0	2,30E-04	*the 1-4*	DMSO SORB	JA
LAYFI01P010h.jpg	0	7,57E-04	*the 1-4*	DMSO SORB	JA
LAYFI01P020h.jpg	0	0,001	*the 1-4*	DMSO SORB	JA
LAYFI01P030h.jpg	0	0,001	*the 1-4*	DMSO SORB	JA
LAYFI01P040h.jpg	0	7,74E-04	*the 1-4*	DMSO SORB	JA
LAYFI01P050h.jpg	0	0,038	*the 1-4*	DMSO SORB	JA
LADSYFI01P012h.jpg	2	1,967	*the 1-4*	DMSO SORB	JA
LADSYFI01P022h.jpg	2	0,028	*the 1-4*	DMSO SORB	JA
LADSYFI01P012h.jpg	2	0,007	*the 1-4*	DMSO SORB	JA
LADSYFI01P022h.jpg	2	0,004	*the 1-4*	DMSO SORB	JA
LADSYFI01P032h.jpg	2	1,141	*the 1-4*	DMSO SORB	JA
LADSYFI01P042h.jpg	2	0,105	*the 1-4*	DMSO SORB	JA
LADSYFI01P014h.jpg	4	0,086	*the 1-4*	DMSO SORB	JA
LADSYFI01P024h.jpg	4	0,006	*the 1-4*	DMSO SORB	JA

LADSYFI01P034h.jpg	4	0,078	*the 1-4*	DMSO SORB	JA
LADSYFI01P014h.jpg	4	0,032	*the 1-4*	DMSO SORB	JA
LADSYFI01P024h.jpg	4	0,27	*the 1-4*	DMSO SORB	JA
LADSYFI01P034h.jpg	4	0,031	*the 1-4*	DMSO SORB	JA
LADSYFI01P044h.jpg	4	0,961	*the 1-4*	DMSO SORB	JA
LADSYFI01P016h.jpg	6	0,965	*the 1-4*	DMSO SORB	JA
LADSYFI01P026h.jpg	6	0,317	*the 1-4*	DMSO SORB	JA
LADSYFI01P036h.jpg	6	0,015	*the 1-4*	DMSO SORB	JA
LADSYFI01P016h.jpg	6	6,58E-05	*the 1-4*	DMSO SORB	JA
LADSYFI01P026h.jpg	6	3,13E-04	*the 1-4*	DMSO SORB	JA
LADSYFI01P036h.jpg	6	6,58E-05	*the 1-4*	DMSO SORB	JA
LADSYFI01P046h.jpg	6	6,58E-05	*the 1-4*	DMSO SORB	JA
LADSYFI01P018h.jpg	8	0,157	*the 1-4*	DMSO SORB	JA
LADSYFI01P028h.jpg	8	0,078	*the 1-4*	DMSO SORB	JA
LADSYFI01P038h.jpg	8	0,37	*the 1-4*	DMSO SORB	JA
LADSYFI01P018h.jpg	8	6,58E-05	*the 1-4*	DMSO SORB	JA
LADSYFI01P028h.jpg	8	6,58E-05	*the 1-4*	DMSO SORB	JA
LADSYFI01P038h.jpg	8	6,58E-05	*the 1-4*	DMSO SORB	JA
LADSYFI01P048h.jpg	8	8,23E-05	*the 1-4*	DMSO SORB	JA
JYYFI01P010h.jpg	0	1,48E-04	Col0	DMSO SORB	JA
JYYFI01P020h.jpg	0	1,48E-04	Col0	DMSO SORB	JA
JYYFI01P010h.jpg	0	4,28E-04	Col0	DMSO SORB	JA
JYYFI01P020h.jpg	0	4,44E-04	Col0	DMSO SORB	JA
JYYFI01P010h.jpg	0	2,14E-04	Col0	DMSO SORB	JA
JYYFI01P020h.jpg	0	0,002	Col0	DMSO SORB	JA
JYYFI01P030h.jpg	0	1,98E-04	Col0	DMSO SORB	JA
JYYFI01P040h.jpg	0	1,65E-04	Col0	DMSO SORB	JA
JYDSYFI01P012h.jpg	2	0,001	Col0	DMSO SORB	JA
JYDSYFI01P022h.jpg	2	0,181	Col0	DMSO SORB	JA
JYDSYFI01P012h.jpg	2	4,44E-04	Col0	DMSO SORB	JA
JYDSYFI01P022h.jpg	2	4,28E-04	Col0	DMSO SORB	JA

JYDSYFI01P012h.jpg	2	2,47E-04	Col0	DMSO SORB	JA
JYDSYFI01P022h.jpg	2	1,81E-04	Col0	DMSO SORB	JA
JYDSYFI01P014h.jpg	4	6,58E-04	Col0	DMSO SORB	JA
JYDSYFI01P024h.jpg	4	0,003	Col0	DMSO SORB	JA
JYDSYFI01P034h.jpg	4	8,56E-04	Col0	DMSO SORB	JA
JYDSYFI01P014h.jpg	4	0,025	Col0	DMSO SORB	JA
JYDSYFI01P024h.jpg	4	4,77E-04	Col0	DMSO SORB	JA
JYDSYFI01P016h.jpg	6	0,005	Col0	DMSO SORB	JA
JYDSYFI01P026h.jpg	6	0,01	Col0	DMSO SORB	JA
JYDSYFI01P036h.jpg	6	7,57E-04	Col0	DMSO SORB	JA
JYDSYFI01P016h.jpg	6	4,44E-04	Col0	DMSO SORB	JA
JYDSYFI01P026h.jpg	6	0,004	Col0	DMSO SORB	JA
JYDSYFI01P018h.jpg	8	0,617	Col0	DMSO SORB	JA
JYDSYFI01P028h.jpg	8	0,001	Col0	DMSO SORB	JA
JYDSYFI01P038h.jpg	8	0,015	Col0	DMSO SORB	JA
JYDSYFI01P018h.jpg	8	0,042	Col0	DMSO SORB	JA
JYDSYFI01P028h.jpg	8	4,44E-04	Col0	DMSO SORB	JA
KAYFI01P010h.jpg	0	1,81E-04	*the 1-1*	ISX MS	JA
KAYFI01P020h.jpg	0	2,14E-04	*the 1-1*	ISX MS	JA
KAYFI01P030h.jpg	0	1,81E-04	*the 1-1*	ISX MS	JA
KAYFI01P040h.jpg	0	0,276	*the 1-1*	ISX MS	JA
KAYFI01P010h.jpg	0	1,65E-04	*the 1-1*	ISX MS	JA
KAYFI01P020h.jpg	0	1,65E-04	*the 1-1*	ISX MS	JA
KAYFI01P030h.jpg	0	1,81E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P012h.jpg	2	3,79E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P022h.jpg	2	0,003	*the 1-1*	ISX MS	JA
KAIMYFI01P032h.jpg	2	2,091	*the 1-1*	ISX MS	JA
KAIMYFI01P042h.jpg	2	2,30E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P012h.jpg	2	1,98E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P022h.jpg	2	1,65E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P032h.jpg	2	1,48E-04	*the 1-1*	ISX MS	JA

KAIMYFI01P042h.jpg	2	1,48E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P014h.jpg	4	2,30E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P024h.jpg	4	0,666	*the 1-1*	ISX MS	JA
KAIMYFI01P034h.jpg	4	0,989	*the 1-1*	ISX MS	JA
KAIMYFI01P014h.jpg	4	1,32E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P024h.jpg	4	1,48E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P034h.jpg	4	1,48E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P044h.jpg	4	1,65E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P016h.jpg	6	0,035	*the 1-1*	ISX MS	JA
KAIMYFI01P026h.jpg	6	0,003	*the 1-1*	ISX MS	JA
KAIMYFI01P036h.jpg	6	0,04	*the 1-1*	ISX MS	JA
KAIMYFI01P046h.jpg	6	0,004	*the 1-1*	ISX MS	JA
KAIMYFI01P016h.jpg	6	1,81E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P026h.jpg	6	1,65E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P036h.jpg	6	1,48E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P046h.jpg	6	1,48E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P018h.jpg	8	0,126	*the 1-1*	ISX MS	JA
KAIMYFI01P028h.jpg	8	0,699	*the 1-1*	ISX MS	JA
KAIMYFI01P038h.jpg	8	0,091	*the 1-1*	ISX MS	JA
KAIMYFI01P018h.jpg	8	1,98E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P028h.jpg	8	1,65E-04	*the 1-1*	ISX MS	JA
KAIMYFI01P038h.jpg	8	0,008	*the 1-1*	ISX MS	JA
KAIMYFI01P048h.jpg	8	1,81E-04	*the 1-1*	ISX MS	JA
LAYFI01P010h.jpg	0	0,035	*the 1-4*	ISX MS	JA
LAYFI01P020h.jpg	0	2,14E-04	*the 1-4*	ISX MS	JA
LAYFI01P030h.jpg	0	2,14E-04	*the 1-4*	ISX MS	JA
LAYFI01P040h.jpg	0	2,30E-04	*the 1-4*	ISX MS	JA
LAYFI01P010h.jpg	0	7,57E-04	*the 1-4*	ISX MS	JA
LAYFI01P020h.jpg	0	0,001	*the 1-4*	ISX MS	JA
LAYFI01P030h.jpg	0	0,001	*the 1-4*	ISX MS	JA
LAYFI01P040h.jpg	0	7,74E-04	*the 1-4*	ISX MS	JA

LAYFI01P050h.jpg	0	0,038	*the 1-4*	ISX MS	JA
LAIMYFI01P012h.jpg	2	0,002	*the 1-4*	ISX MS	JA
LAIMYFI01P022h.jpg	2	0,009	*the 1-4*	ISX MS	JA
LAIMYFI01P032h.jpg	2	0,001	*the 1-4*	ISX MS	JA
LAIMYFI01P012h.jpg	2	0,005	*the 1-4*	ISX MS	JA
LAIMYFI01P022h.jpg	2	0,003	*the 1-4*	ISX MS	JA
LAIMYFI01P032h.jpg	2	0,052	*the 1-4*	ISX MS	JA
LAIMYFI01P042h.jpg	2	0,001	*the 1-4*	ISX MS	JA
LAIMYFI01P014h.jpg	4	0,389	*the 1-4*	ISX MS	JA
LAIMYFI01P024h.jpg	4	0,596	*the 1-4*	ISX MS	JA
LAIMYFI01P034h.jpg	4	0,691	*the 1-4*	ISX MS	JA
LAIMYFI01P014h.jpg	4	0,835	*the 1-4*	ISX MS	JA
LAIMYFI01P024h.jpg	4	0,076	*the 1-4*	ISX MS	JA
LAIMYFI01P034h.jpg	4	0,965	*the 1-4*	ISX MS	JA
LAIMYFI01P016h.jpg	6	2,361	*the 1-4*	ISX MS	JA
LAIMYFI01P026h.jpg	6	2,039	*the 1-4*	ISX MS	JA
LAIMYFI01P036h.jpg	6	2,805	*the 1-4*	ISX MS	JA
LAIMYFI01P016h.jpg	6	0,238	*the 1-4*	ISX MS	JA
LAIMYFI01P026h.jpg	6	0,391	*the 1-4*	ISX MS	JA
LAIMYFI01P036h.jpg	6	0,028	*the 1-4*	ISX MS	JA
LAIMYFI01P018h.jpg	8	3,809	*the 1-4*	ISX MS	JA
LAIMYFI01P028h.jpg	8	3,684	*the 1-4*	ISX MS	JA
LAIMYFI01P038h.jpg	8	3,911	*the 1-4*	ISX MS	JA
LAIMYFI01P048h.jpg	8	6,233	*the 1-4*	ISX MS	JA
LAIMYFI01P018h.jpg	8	0,603	*the 1-4*	ISX MS	JA
LAIMYFI01P028h.jpg	8	0,947	*the 1-4*	ISX MS	JA
LAIMYFI01P038h.jpg	8	0,564	*the 1-4*	ISX MS	JA
LAIMYFI01P048h.jpg	8	0,853	*the 1-4*	ISX MS	JA
JYYFI01P010h.jpg	0	1,48E-04	Col0	ISX MS	JA
JYYFI01P020h.jpg	0	1,48E-04	Col0	ISX MS	JA
JYYFI01P010h.jpg	0	4,28E-04	Col0	ISX MS	JA

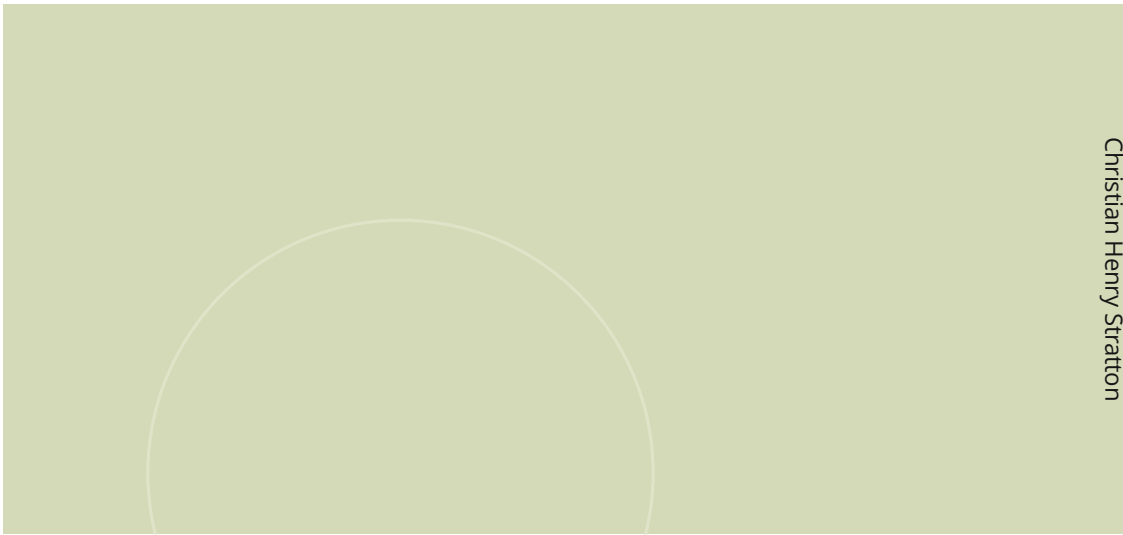
JYYFI01P020h.jpg	0	4,44E-04	Col0	ISX MS	JA
JYYFI01P010h.jpg	0	2,14E-04	Col0	ISX MS	JA
JYYFI01P020h.jpg	0	0,002	Col0	ISX MS	JA
JYYFI01P030h.jpg	0	1,98E-04	Col0	ISX MS	JA
JYYFI01P040h.jpg	0	1,65E-04	Col0	ISX MS	JA
JYIMYFI01P012h.jpg	2	7,74E-04	Col0	ISX MS	JA
JYIMYFI01P022h.jpg	2	0,006	Col0	ISX MS	JA
JYIMYFI01P032h.jpg	2	7,41E-04	Col0	ISX MS	JA
JYIMYFI01P042h.jpg	2	0,017	Col0	ISX MS	JA
JYIMYFI01P012h.jpg	2	4,77E-04	Col0	ISX MS	JA
JYIMYFI01P022h.jpg	2	4,77E-04	Col0	ISX MS	JA
JYIMYFI01P032h.jpg	2	4,77E-04	Col0	ISX MS	JA
JYIMYFI01P012h.jpg	2	1,81E-04	Col0	ISX MS	JA
JYIMYFI01P022h.jpg	2	1,98E-04	Col0	ISX MS	JA
JYIMYFI01P032h.jpg	2	1,81E-04	Col0	ISX MS	JA
JYIMYFI01P014h.jpg	4	0,009	Col0	ISX MS	JA
JYIMYFI01P024h.jpg	4	0,159	Col0	ISX MS	JA
JYIMYFI01P014h.jpg	4	4,77E-04	Col0	ISX MS	JA
JYIMYFI01P024h.jpg	4	4,61E-04	Col0	ISX MS	JA
JYIMYFI01P034h.jpg	4	0,003	Col0	ISX MS	JA
JYIMYFI01P016h.jpg	6	3,908	Col0	ISX MS	JA
JYIMYFI01P026h.jpg	6	4,063	Col0	ISX MS	JA
JYIMYFI01P036h.jpg	6	2,783	Col0	ISX MS	JA
JYIMYFI01P016h.jpg	6	0,362	Col0	ISX MS	JA
JYIMYFI01P026h.jpg	6	0,836	Col0	ISX MS	JA
JYIMYFI01P036h.jpg	6	0,118	Col0	ISX MS	JA
JYIMYFI01P046h.jpg	6	0,193	Col0	ISX MS	JA
JYIMYFI01P018h.jpg	8	4,914	Col0	ISX MS	JA
JYIMYFI01P028h.jpg	8	3,25	Col0	ISX MS	JA
JYIMYFI01P038h.jpg	8	3,129	Col0	ISX MS	JA
JYIMYFI01P048h.jpg	8	4,071	Col0	ISX MS	JA

JYIMYFI01P018h.jpg	8	2,798	Col0	ISX MS	JA
JYIMYFI01P038h.jpg	8	0,462	Col0	ISX MS	JA
KAYFI01P010h.jpg	0	1,81E-04	*the 1-1*	ISX SORB	JA
KAYFI01P020h.jpg	0	2,14E-04	*the 1-1*	ISX SORB	JA
KAYFI01P030h.jpg	0	1,81E-04	*the 1-1*	ISX SORB	JA
KAYFI01P040h.jpg	0	0,276	*the 1-1*	ISX SORB	JA
KAYFI01P010h.jpg	0	1,65E-04	*the 1-1*	ISX SORB	JA
KAYFI01P020h.jpg	0	1,65E-04	*the 1-1*	ISX SORB	JA
KAYFI01P030h.jpg	0	1,81E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P012h.jpg	2	0,889	*the 1-1*	ISX SORB	JA
KAISYFI01P022h.jpg	2	6,09E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P032h.jpg	2	0,949	*the 1-1*	ISX SORB	JA
KAISYFI01P042h.jpg	2	1,444	*the 1-1*	ISX SORB	JA
KAISYFI01P012h.jpg	2	1,65E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P022h.jpg	2	1,65E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P032h.jpg	2	1,65E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P042h.jpg	2	0,001	*the 1-1*	ISX SORB	JA
KAISYFI01P014h.jpg	4	0,431	*the 1-1*	ISX SORB	JA
KAISYFI01P024h.jpg	4	0,45	*the 1-1*	ISX SORB	JA
KAISYFI01P034h.jpg	4	0,939	*the 1-1*	ISX SORB	JA
KAISYFI01P044h.jpg	4	0,822	*the 1-1*	ISX SORB	JA
KAISYFI01P014h.jpg	4	1,65E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P024h.jpg	4	1,48E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P034h.jpg	4	1,48E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P044h.jpg	4	1,65E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P016h.jpg	6	0,001	*the 1-1*	ISX SORB	JA
KAISYFI01P026h.jpg	6	2,47E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P016h.jpg	6	1,48E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P026h.jpg	6	1,65E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P036h.jpg	6	1,32E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P018h.jpg	8	0,147	*the 1-1*	ISX SORB	JA

KAISYFI01P028h.jpg	8	0,005	*the 1-1*	ISX SORB	JA
KAISYFI01P038h.jpg	8	0,048	*the 1-1*	ISX SORB	JA
KAISYFI01P018h.jpg	8	1,65E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P028h.jpg	8	1,98E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P038h.jpg	8	1,65E-04	*the 1-1*	ISX SORB	JA
KAISYFI01P048h.jpg	8	1,48E-04	*the 1-1*	ISX SORB	JA
LAYFI01P010h.jpg	0	0,035	*the 1-4*	ISX SORB	JA
LAYFI01P020h.jpg	0	2,14E-04	*the 1-4*	ISX SORB	JA
LAYFI01P030h.jpg	0	2,14E-04	*the 1-4*	ISX SORB	JA
LAYFI01P040h.jpg	0	2,30E-04	*the 1-4*	ISX SORB	JA
LAYFI01P010h.jpg	0	7,57E-04	*the 1-4*	ISX SORB	JA
LAYFI01P020h.jpg	0	0,001	*the 1-4*	ISX SORB	JA
LAYFI01P030h.jpg	0	0,001	*the 1-4*	ISX SORB	JA
LAYFI01P040h.jpg	0	7,74E-04	*the 1-4*	ISX SORB	JA
LAYFI01P050h.jpg	0	0,038	*the 1-4*	ISX SORB	JA
LAISYFI01P012h.jpg	2	0,864	*the 1-4*	ISX SORB	JA
LAISYFI01P022h.jpg	2	0,009	*the 1-4*	ISX SORB	JA
LAISYFI01P032h.jpg	2	0,769	*the 1-4*	ISX SORB	JA
LAISYFI01P012h.jpg	2	0,005	*the 1-4*	ISX SORB	JA
LAISYFI01P022h.jpg	2	0,045	*the 1-4*	ISX SORB	JA
LAISYFI01P032h.jpg	2	8,89E-04	*the 1-4*	ISX SORB	JA
LAISYFI01P042h.jpg	2	0,002	*the 1-4*	ISX SORB	JA
LAISYFI01P014h.jpg	4	0,629	*the 1-4*	ISX SORB	JA
LAISYFI01P024h.jpg	4	2,076	*the 1-4*	ISX SORB	JA
LAISYFI01P034h.jpg	4	0,444	*the 1-4*	ISX SORB	JA
LAISYFI01P044h.jpg	4	0,416	*the 1-4*	ISX SORB	JA
LAISYFI01P014h.jpg	4	0,078	*the 1-4*	ISX SORB	JA
LAISYFI01P024h.jpg	4	1,796	*the 1-4*	ISX SORB	JA
LAISYFI01P034h.jpg	4	0,008	*the 1-4*	ISX SORB	JA
LAISYFI01P044h.jpg	4	0,007	*the 1-4*	ISX SORB	JA
LAISYFI01P016h.jpg	6	0,023	*the 1-4*	ISX SORB	JA

LAISYFI01P026h.jpg	6	0,067	*the 1-4*	ISX SORB	JA
LAISYFI01P036h.jpg	6	0,13	*the 1-4*	ISX SORB	JA
LAISYFI01P046h.jpg	6	0,078	*the 1-4*	ISX SORB	JA
LAISYFI01P016h.jpg	6	0,002	*the 1-4*	ISX SORB	JA
LAISYFI01P026h.jpg	6	6,58E-05	*the 1-4*	ISX SORB	JA
LAISYFI01P036h.jpg	6	6,58E-05	*the 1-4*	ISX SORB	JA
LAISYFI01P046h.jpg	6	6,58E-05	*the 1-4*	ISX SORB	JA
LAISYFI01P018h.jpg	8	0,812	*the 1-4*	ISX SORB	JA
LAISYFI01P028h.jpg	8	0,201	*the 1-4*	ISX SORB	JA
LAISYFI01P038h.jpg	8	0,75	*the 1-4*	ISX SORB	JA
LAISYFI01P018h.jpg	8	0,009	*the 1-4*	ISX SORB	JA
LAISYFI01P028h.jpg	8	0,001	*the 1-4*	ISX SORB	JA
LAISYFI01P038h.jpg	8	6,58E-05	*the 1-4*	ISX SORB	JA
LAISYFI01P048h.jpg	8	6,58E-05	*the 1-4*	ISX SORB	JA
JYYFI01P010h.jpg	0	1,48E-04	Col0	ISX SORB	JA
JYYFI01P020h.jpg	0	1,48E-04	Col0	ISX SORB	JA
JYYFI01P010h.jpg	0	4,28E-04	Col0	ISX SORB	JA
JYYFI01P020h.jpg	0	4,44E-04	Col0	ISX SORB	JA
JYYFI01P010h.jpg	0	2,14E-04	Col0	ISX SORB	JA
JYYFI01P020h.jpg	0	0,002	Col0	ISX SORB	JA
JYYFI01P030h.jpg	0	1,98E-04	Col0	ISX SORB	JA
JYYFI01P040h.jpg	0	1,65E-04	Col0	ISX SORB	JA
JYISYFI01P012h.jpg	2	0,111	Col0	ISX SORB	JA
JYISYFI01P022h.jpg	2	0,507	Col0	ISX SORB	JA
JYISYFI01P032h.jpg	2	0,001	Col0	ISX SORB	JA
JYISYFI01P012h.jpg	2	4,44E-04	Col0	ISX SORB	JA
JYISYFI01P022h.jpg	2	0,022	Col0	ISX SORB	JA
JYISYFI01P012h.jpg	2	1,81E-04	Col0	ISX SORB	JA
JYISYFI01P022h.jpg	2	0,002	Col0	ISX SORB	JA
JYISYFI01P032h.jpg	2	1,81E-04	Col0	ISX SORB	JA
JYISYFI01P042h.jpg	2	2,14E-04	Col0	ISX SORB	JA

JYISYFI01P014h.jpg	4	0,493	Col0	ISX SORB	JA
JYISYFI01P024h.jpg	4	1,907	Col0	ISX SORB	JA
JYISYFI01P034h.jpg	4	0,531	Col0	ISX SORB	JA
JYISYFI01P044h.jpg	4	0,004	Col0	ISX SORB	JA
JYISYFI01P014h.jpg	4	4,44E-04	Col0	ISX SORB	JA
JYISYFI01P024h.jpg	4	0,051	Col0	ISX SORB	JA
JYISYFI01P016h.jpg	6	0,076	Col0	ISX SORB	JA
JYISYFI01P026h.jpg	6	0,691	Col0	ISX SORB	JA
JYISYFI01P016h.jpg	6	0,052	Col0	ISX SORB	JA
JYISYFI01P026h.jpg	6	0,005	Col0	ISX SORB	JA
JYISYFI01P036h.jpg	6	4,44E-04	Col0	ISX SORB	JA
JYISYFI01P018h.jpg	8	0,03	Col0	ISX SORB	JA
JYISYFI01P028h.jpg	8	2,773	Col0	ISX SORB	JA
JYISYFI01P038h.jpg	8	1,509	Col0	ISX SORB	JA
JYISYFI01P018h.jpg	8	0,012	Col0	ISX SORB	JA
JYISYFI01P028h.jpg	8	4,61E-04	Col0	ISX SORB	JA



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