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1 **1. Geological background**

2 **2. Methods**

3 **3. Description of the morphological and ultrastructural variations of organic**
4 **matter in various stages of cell cycle based on optical microscopic images and**
5 **Raman maps.**

6 **4. Fig. DR1 and caption**

7 **5. References of Data Repository**

8 **6. Table DR1**

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10 **1. Geological background**

11 The Mesozoic strata at the Korsaröd locality, north of Höör in southern Sweden,
12 represents a ‘Konservat-Lagerstätten’ deposit, hosting well-preserved fossilized plant
13 material from a terrestrial ecosystem, including spore, pollen, charcoal, wood
14 fragments with growth rings and saprophytic fungi (McLoughlin and Bomfleru, 2016;
15 Vajda et al., 2016). The Jurassic Korsaröd successions record episodic lahar events,
16 which partially preserved the vegetation of the contemporaneous ecosystem. In
17 remarkable cases, the rapid calcite-permineralization by hydrothermal brines during
18 volcanism has well-preserved the plant cytoarchitectures (Bomfleur et al., 2014; Vajda
19 et al., 2016). The age of the strata is constrained to the Early Jurassic 191-176.7±0.5
20 Ma, according to $^{40}\text{Ar}/^{39}\text{Ar}$ estimates from adjacent basanite and nephelinite plugs
21 (Bergelin et al., 2011; Tappe et al., 2016).

22

23 **2. Methods**

24 **Petrography and Raman Spectroscopy**

25 The petrographic and Raman spectroscopic analyses were performed on c. 40 µm
26 thick polished thin sections of the fossil *Osmunda*, by using a A Horiba-Jobin Labram
27 800 HR Raman spectrometer linked to an Olympus BX41 petrographic microscope at
28 the Centre for Geobiology at University of Bergen, and a Renishaw InVia
29 spectrometer linked to an Olympus BX61 confocal microscope at the Institut de
30 Physique du Globe de Paris in Paris, respectively. For the Horiba-Jobin Labram 800
31 HR spectrometer the Ar-ion laser with the wavelength of 514 nm, went through a
32 density filter (D=0.3), an aperture hole of 100 µm in diameter, a 100× objective, and
33 finally in a 1–2 µm spot on the sample with the final power of c. 0.2 mW (measured
34 with a Coherent Lasercheck Analyser). For the Renishaw InVia Raman spectrometer
35 exactly the same settings were applied, using a 514 nm laser with a 0.2 mW final
36 power on the sample surface. In order to avoid polishing artifacts and potential
37 contamination on the surface, we focused the laser beam on the carbonaceous material
38 underneath polished surface of thin section. The spectra were acquired randomly from
39 various cellular organelles in the range of 150–2000 cm⁻¹ using a running time of
40 2×10 seconds. Some areas were scanned by using an XY stage with spatial resolution
41 of 1 µm per step to generate two-dimensional maps of Raman spectral parameters. For
42 Raman hyperspectral mapping each point analysis consisted of a running time of 1×5
43 seconds. The final data were processed with the software ‘Lab Spec version 5.58.25’
44 and Matlab version 7.13.0.564. The spectra were subtracted with a linear baseline

45 from 1000 to 1800 cm^{-1} to remove the background fluorescence (Fig. 1D). The peak
46 fitting were performed by peak deconvolution using a Gauss-Lorentzian function with
47 100 iteration per fit.

48

49 **micro-Fourier Transform Infrared spectroscopy (FTIR)**

50 The micro-FTIR analysis was performed on doubly polished wafers using an
51 infrared microscope (Bruker Hyperion 3000) linked to a Bruker IFS66V FTIR
52 spectrometer in transmission mode at Beamline D7 in the MAX-Lab ring of Maxlab
53 in Lund, Sweden. The absorbance spectra were obtained by focusing the IR through a
54 $15 \times 15 \mu\text{m}^2$ aperture on the targeted samples in the rock wafer on the CaF_2 window.
55 Reference background IR spectrum for calibration were measured on the CaF_2
56 window before the measurement of every sample. The FTIR spectrum acquisition has
57 been performed randomly from various cellular organelles. The spectra in the range
58 from 500 to 7500 cm^{-1} were obtained by the integration of 256 scans, and processed
59 with the software Lab Spec version 5.58.25 and Matlab version 7.13.0.564.

60

61 **SIMS (Secondary Ion Mass Spectrometry)**

62 The *in-situ* isotopic analyses of the extant and fossil ferns were performed by
63 using a Cameca IMS 1280 (Secondary ion mass spectrometry) at the Swedish
64 Museum of Natural History in Stockholm (NORDSIM Laboratory). Slices from the
65 fossil Royal fern stem (rhizome) were cut from polished discs, whereas the fresh
66 slices from the extant Royal fern rhizome were first soaked in Na_2SiO_3 and solidified

67 in the air (reaction: $\text{Na}_2\text{SiO}_3 + \text{CO}_2 = \text{SiO}_2 + \text{Na}_2\text{CO}_3$). Both the fossil and the extant
68 Royal fern samples were mounted together with a graphite standard of pyrolytic
69 graphite ('C-pyr' which has $\delta^{13}\text{C} = -31\text{‰}$ in VPDB) in epoxy, and subsequently
70 polished and coated with a c. 30 nm gold layer to provide conductivity. A 20 kV
71 impact energy Cs^+ beam was focused to a 5–10 μm spot, and meanwhile a low energy
72 electron flooding gun was used to compensate for charge build-up. Measurements
73 were made in high transmission transfer mode with simultaneous determination of the
74 ^{12}C and ^{13}C signals in a Faraday cup and low-noise ion counting electron multiplier,
75 respectively, the latter of which was operated at mass resolution of $M/\text{DM}=6000$ to
76 separate $^{13}\text{C}^-$ from $^{12}\text{C}^1\text{H}^-$, and $M/\text{DM}=12000$ to separate $^{11}\text{B}^{16}\text{O}$ from $^{13}\text{C}^{14}\text{N}$ at mass
77 27. Measurements were performed randomly from various cellular organelles. Carbon
78 isotopic data were calibrated using the graphite standard and are reported as ‰
79 deviation from VPDB. In order to avoid analytical artifacts, we excluded all sample
80 data points with excessively low ^{12}C count rate (defined as ion counts per second)
81 relative to that of the bracketing graphite standards. When all $\delta^{13}\text{C}_{\text{org-SIMS}}$ data are
82 plotted against ^{12}C count ratio (^{12}C count rate sample/standard), anomalous points
83 with strongly deviating $\delta^{13}\text{C}$ values are observed for count ratios lower than 0.07 (Fig.
84 DR1). These points with low ^{12}C count ratio represent spots with a small fraction of
85 total organic material, and have therefore been excluded from our interpretation. This
86 cut off is arbitrary, but in the same range as used in other studies (e.g. Morag et al.,
87 2016; Wacey et al., 2011).

89 **Analysis of carbon isotopic composition of organic carbon from bulk samples**

90 The carbon isotopic analyses on organic carbon in both fossil and extant Royal
91 fern samples were carried out at the University of Bergen using an Elemental
92 Analyser Continuous Flow Isotope Ratio Mass Spectrometry (EA-CF-IRMS:
93 ThermoScientific Delta V Plus with Costech EA). The weathered surfaces of rock
94 pieces were cut off to avoid potential contamination. The powdered samples from
95 bulk rock were rinsed with (ethanol/dichloromethane = 1:9 volume ratio) to remove
96 possible organic contamination during crushing before evaporated in room
97 temperature. The powdered samples were used for carbon isotopic analysis on organic
98 carbon, and decarbonated using 37% (volume ratio) HCl at 70°C for 48 hours and
99 subsequently rinsed three times by deionized water and dried at room temperature.
100 The $\delta^{13}\text{C}$ of carbonate and organic matter are reported relative to the VPDB standard
101 (Standard Deviation < 0.04 ‰), and the appropriate correction factors were applied.

102

103 **3. Description of the morphological and ultrastructural variations of organic** 104 **matter in various stages of cell cycle based on optical microscopic images and** 105 **Raman maps.**

106 During the interphase stage, the nucleolus (arrow in Fig. 1E) appears with a clear
107 boundary in the nucleus, whereas the chromatin in the nuclear matrix is difficult to
108 identify by optical microscopy (Fig. 1E). The Raman spectra show that the nucleolus
109 is less structurally ordered (lower I-1350/1600) compared to the ambient nuclear
110 matrix, which is well packed by the smooth nuclear envelope. In the prophase, the

111 nucleolus disintegrates, and the nuclear envelope starts to crack (Fig. 1J). The
112 chromatin starts to convert into chromosomes, which distribute randomly in the
113 nuclear matrix (Fig. 1J). The chromosomes contain higher concentration of organic
114 carbon (higher I-1600) and higher structural order (higher I-1350/1600) than the
115 nuclear matrix (Fig. 1J). In the prometaphase, the chromosomes continue
116 concentrating in specific areas in the nucleus, where the structural order of carbon is
117 slightly higher (higher I-1350/1600) than the nuclear matrix (Figs. 2K–L). In the
118 metaphase, the condensed chromosomes gradually gather near the equator in the
119 center of the nucleus (Fig. 1M) and the structural order of carbon is higher (higher
120 I-1350/1600) in the chromosomes than that in the nuclear matrix (Fig. 1M). In the
121 anaphase, the chromosomes/chromatids split and move towards the opposite sides
122 (arrows) of the cell and display lower structural order (lower I-1350/1600) of carbon
123 compared to the nuclear matrix (Fig. 1N). In the telophase, the cell plate forms in the
124 center (dashed line) and divides the protoplasm into two separate subsequent daughter
125 cells (Fig. 1H). The structural order of carbon in the cell plate is similar to that of
126 the cell wall but higher (higher I-1350/1600) than that in the split protoplasm (Fig.
127 1H). During cytokinesis, the formation of two daughter nuclei is completed, and the
128 protoplasm is gradually separated into two parts by the furrow (arrows) in the equator
129 (Fig. 1F). A nucleolus with a smudged envelope is visible, in which the carbon is less
130 ordered (lower I-1350/1600) than that in the nucleus matrix, whereas the carbon in
131 cytoplasm has higher structural order (higher I-1350/1600) than that in the nucleus
132 and cell wall (Fig. 1F).

133

134 **4. Caption of Fig. DR1**

135 **Fig. DR1:** Plots of all $\delta^{13}\text{C}_{\text{org-SIMS}}$ data obtained from both fossil and extant fern. The
136 data on the left side of the dashed line (^{12}C count of sample vs. standard less than 7%)
137 are excluded from our interpretation in order to avoid artifacts, as explained in the
138 Methods section. The raw data are provided in Table DR. 1.

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140 **5. References of Data Repository**

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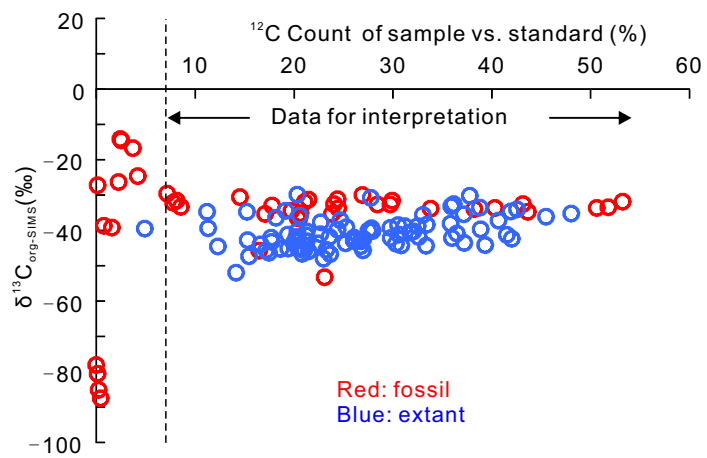


Fig. DR1

1 **Table DR1:** Summary of $\delta^{13}\text{C}_{\text{org-SIMS}}$ data with count ratios. Abbreviations:
2 RFF=Royal fern fossil, RFM=Royal fern modern, IP=Intensity of primary ion,
3 cps=count per second. Classification: STD=Standard, 1=Cell wall in pith, 2=Nuclei in
4 inner cortex, 3=Cytoplasm in inner cortex, 4=Cell wall in inner cortex, 5=Cytoplasm
5 in outer cortex, 6=Cell wall in outer cortex. Note: some IP values (shown as blanks)
6 were not recorded due to software problem. The underlines represent the data with ^{12}C
7 counts of sample vs. STD <0.07, which are excluded from further consideration in
8 order to avoid artifacts.

Sample ID	IP (nA)	^{12}C cps ($\times 10^9$)	^{12}C cps sample vs. STD	$^{13}\text{C}/^{12}\text{C}$ drift corrected ($\times 10^{-2}$)	\pm abs (10^{-5})	$\delta^{13}\text{C}$ (‰ in PDB)	Classification
0519@1	0.294	0.07		1.05	0.015	-30.65 ± 0.28	STD
0519@2	0.293	0.07		1.05	0.013	-30.87 ± 0.27	STD
0519@3	0.293	0.07		1.05	0.013	-31.21 ± 0.27	STD
RFF_@1	0.292	0.02	0.24	1.05	0.026	-31.22 ± 0.35	6
RFF_@02	0.291	0.01	0.21	1.05	0.034	-31.38 ± 0.40	6
RFF_@03	0.290	0.03	0.40	1.04	0.022	-33.72 ± 0.32	6
RFF_@04	0.289	0.03	0.38	1.04	0.023	-34.00 ± 0.33	6
RFF_@05	0.288	0.03	0.43	1.04	0.019	-32.69 ± 0.31	6
RFF_@06	0.287	0.03	0.51	1.04	0.025	-33.71 ± 0.34	6
<u>RFF_@07</u>	<u>0.286</u>	<u>0.00</u>	<u>0.02</u>	<u>1.04</u>	<u>0.113</u>	<u>-39.28 ± 1.11</u>	<u>6</u>
RFF_@08	0.286	0.01	0.21	1.05	0.030	-32.10 ± 0.38	6

0519@4	0.285	0.07		1.05	0.015	-31.88±0.28	STD
0519@5	0.284	0.07		1.05	0.013	-31.13±0.27	STD
RFF_@09	0.284	0.02	0.24	1.04	0.026	-35.39±0.35	6
RFF_@10	0.283	0.01	0.09	1.04	0.044	-33.42±0.48	6
<u>RFF_@11</u>	<u>0.282</u>	<u>0.00</u>	<u>0.00</u>	<u>1.62</u>	<u>2.572</u>	<u>503.46±24.58</u>	<u>2</u>
<u>RFF_@12</u>	<u>0.282</u>	<u>0.00</u>	<u>0.00</u>	<u>0.99</u>	<u>0.293</u>	<u>-87.59±2.81</u>	<u>2</u>
<u>RFF_@13</u>	<u>0.282</u>	<u>0.00</u>	<u>0.00</u>	<u>2.26</u>	<u>8.983</u>	<u>1089.53±85.85</u>	<u>2</u>
<u>RFF_@14</u>	<u>0.281</u>	<u>0.00</u>	<u>0.00</u>	<u>1.17</u>	<u>1.113</u>	<u>84.92±10.64</u>	<u>2</u>
<u>RFF_@15</u>	<u>0.281</u>	<u>0.00</u>	<u>0.00</u>	<u>1.73</u>	<u>5.180</u>	<u>601.96±49.50</u>	<u>2</u>
<u>RFF_@16</u>	<u>0.280</u>	<u>0.00</u>	<u>0.00</u>	<u>2.69</u>	<u>14.047</u>	<u>1494.30±134.24</u>	<u>2</u>
0519@6	0.280	0.07		1.05	0.018	-30.55±0.30	STD
0519@7	0.280	0.07		1.05	0.013	-30.93±0.27	STD
<u>RFF_@17</u>	<u>0.280</u>	<u>0.00</u>	<u>0.07</u>	<u>1.00</u>	<u>0.202</u>	<u>-78.24±1.95</u>	<u>4</u>
<u>RFF_@18</u>	<u>0.279</u>	<u>0.00</u>	<u>0.00</u>	<u>1.72</u>	<u>3.016</u>	<u>595.31±28.82</u>	<u>3</u>
RFF_@19	0.279	0.01	0.17	1.03	0.041	-45.86±0.46	4
<u>RFF_@20</u>	<u>0.278</u>	<u>0.00</u>	<u>0.02</u>	<u>1.05</u>	<u>0.093</u>	<u>-26.37±0.92</u>	<u>4</u>
RFF_@21	0.278	0.01	0.18	1.04	0.033	-33.05±0.40	2
RFF_@22	0.278	0.03	0.52	1.04	0.018	-33.52±0.30	4
<u>RFF_@23</u>	<u>0.278</u>	<u>0.00</u>	<u>0.00</u>	<u>0.99</u>	<u>0.340</u>	<u>-85.22±3.26</u>	<u>4</u>
RFF_@24	0.278	0.03	0.44	1.04	0.019	-34.81±0.31	4
0519@8	0.277	0.07		1.05	0.014	-31.22±0.28	STD
0519@9	0.277	0.07		1.05	0.016	-31.08±0.29	STD
<u>RFF_@25</u>	<u>0.277</u>	<u>0.00</u>	<u>0.00</u>	<u>0.99</u>	<u>1.073</u>	<u>-80.67±10.25</u>	<u>2</u>

<u>RFF @26</u>	<u>0.277</u>	<u>0.00</u>	<u>0.00</u>	<u>1.59</u>	<u>3.653</u>	<u>472.10±34.91</u>	<u>2</u>
<u>RFF @27</u>	<u>0.276</u>	<u>0.00</u>	<u>0.00</u>	<u>2.01</u>	<u>3.722</u>	<u>863.20±35.57</u>	<u>2</u>
<u>RFF @28</u>	<u>0.276</u>	<u>0.00</u>	<u>0.00</u>	<u>1.62</u>	<u>1.225</u>	<u>500.15±11.71</u>	<u>2</u>
<u>RFF @29</u>	<u>0.275</u>	<u>0.00</u>	<u>0.00</u>	<u>1.38</u>	<u>1.204</u>	<u>274.28±11.51</u>	<u>2</u>
<u>RFF @30</u>	<u>0.275</u>	<u>0.00</u>	<u>0.00</u>	<u>1.22</u>	<u>2.062</u>	<u>131.19±19.71</u>	<u>2</u>
<u>RFF @31</u>	<u>0.275</u>	<u>0.00</u>	<u>0.00</u>	<u>1.22</u>	<u>1.208</u>	<u>129.49±11.55</u>	<u>2</u>
<u>RFF @32</u>	<u>0.274</u>	<u>0.00</u>	<u>0.00</u>	<u>1.05</u>	<u>0.617</u>	<u>-27.33±5.90</u>	<u>2</u>
0519@10	0.274	0.06		1.05	0.018	-30.70±0.30	STD
0519@11	0.274	0.07		1.05	0.013	-31.07±0.27	STD
<u>RFF @33</u>	<u>0.273</u>	<u>0.00</u>	<u>0.00</u>	<u>1.35</u>	<u>2.646</u>	<u>245.94±25.29</u>	<u>2</u>
<u>RFF @34</u>	<u>0.273</u>	<u>0.00</u>	<u>0.00</u>	<u>2.16</u>	<u>7.825</u>	<u>1004.41±74.78</u>	<u>2</u>
<u>RFF @35</u>	<u>0.272</u>	<u>0.00</u>	<u>0.01</u>	<u>1.04</u>	<u>1.155</u>	<u>-38.82±11.04</u>	<u>2</u>
<u>RFF @36</u>	<u>0.272</u>	<u>0.00</u>	<u>0.00</u>	<u>1.66</u>	<u>3.309</u>	<u>540.88±31.62</u>	<u>2</u>
<u>RFF @37</u>	<u>0.272</u>	<u>0.00</u>	<u>0.07</u>	<u>0.93</u>	<u>0.442</u>	<u>-138.19±4.22</u>	<u>2</u>
<u>RFF @38</u>	<u>0.271</u>	<u>0.00</u>	<u>0.00</u>	<u>2.25</u>	<u>9.515</u>	<u>1086.05±90.93</u>	<u>2</u>
<u>RFF @39</u>	<u>0.271</u>	<u>0.00</u>	<u>0.00</u>	<u>1.48</u>	<u>5.309</u>	<u>374.66±50.73</u>	<u>2</u>
<u>RFF @40</u>	<u>0.270</u>	<u>0.00</u>	<u>0.00</u>	<u>0.90</u>	<u>0.199</u>	<u>-166.92±1.92</u>	<u>2</u>
0519@12	0.270	0.06		1.05	0.019	-31.40±0.30	STD
0519@13	0.269	0.06		1.05	0.018	-31.10±0.30	STD
<u>RFF @41</u>	<u>0.269</u>	<u>0.00</u>	<u>0.00</u>	<u>1.80</u>	<u>3.920</u>	<u>663.77±37.46</u>	<u>2</u>
<u>RFF @42</u>	<u>0.268</u>	<u>0.00</u>	<u>0.00</u>	<u>1.85</u>	<u>6.100</u>	<u>711.99±58.29</u>	<u>2</u>
<u>RFF @43</u>	<u>0.268</u>	<u>0.00</u>	<u>0.00</u>	<u>1.79</u>	<u>8.511</u>	<u>661.13±81.34</u>	<u>2</u>
<u>RFF @44</u>	<u>0.267</u>	<u>0.00</u>	<u>0.00</u>	<u>3.12</u>	<u>15.334</u>	<u>1889.39±146.54</u>	<u>2</u>

RFF_@45	0.267	0.01	0.21	1.04	0.029	-36.58±0.37	1
RFF_@46	0.267	0.01	0.20	1.04	0.030	-34.53±0.37	1
RFF_@47	0.266	0.01	0.15	1.05	0.035	-30.72±0.42	1
RFF_@48	0.266	0.01	0.17	1.04	0.032	-35.40±0.39	1
0519@14	0.266	0.06		1.05	0.013	-30.81±0.28	STD
0519@15	0.266	0.06		1.05	0.013	-31.26±0.27	STD
RFF_@49	0.265	0.01	0.21	1.04	0.032	-35.25±0.39	1
RFF_@50	0.265	0.01	0.23	1.02	0.069	-53.36±0.70	1
RFF_@51	0.265	0.02	0.24	1.04	0.027	-32.60±0.35	4
RFF_@52	0.264	0.02	0.25	1.04	0.026	-33.79±0.35	4
RFF_@53		0.02	0.34	1.04	0.023	-33.90±0.32	4
RFF_@54		0.03	0.53	1.05	0.018	-31.99±0.30	4
<u>RFF_@55</u>		<u>0.00</u>	<u>0.04</u>	<u>1.06</u>	<u>0.071</u>	<u>-16.78±0.72</u>	<u>2</u>
RFF_@56		0.02	0.27	1.05	0.027	-30.11±0.35	4
0519@16		0.08		1.05	0.013	-29.89±0.27	STD
0519@17		0.08		1.05	0.013	-30.66±0.28	STD
<u>RFF_@57</u>		<u>0.00</u>	<u>0.03</u>	<u>1.06</u>	<u>0.096</u>	<u>-14.61±0.95</u>	<u>2</u>
RFF_@58		0.02	0.28	1.04	0.026	-32.79±0.35	4
<u>RFF_@59</u>		<u>0.00</u>	<u>0.04</u>	<u>1.05</u>	<u>0.061</u>	<u>-24.70±0.63</u>	<u>2</u>
RFF_@60		0.02	0.30	1.05	0.026	-31.70±0.35	4
RFF_@61		0.01	0.07	1.05	0.044	-29.66±0.48	2
RFF_@62		0.01	0.08	1.05	0.042	-32.28±0.47	2
0519@18		0.08		1.05	0.016	-30.80±0.29	STD

0519@19	0.08		1.05	0.016	-30.87 ± 0.29	STD
RFF_@63	0.02	0.30	1.04	0.026	-32.74 ± 0.35	4
<u>RFF_@64</u>	<u>0.00</u>	<u>0.02</u>	<u>1.06</u>	<u>0.092</u>	<u>-14.24 ± 0.91</u>	<u>2</u>
RFF_@65	0.01	0.08	1.05	0.042	-31.65 ± 0.47	2
RFF_@66	0.02	0.20	1.04	0.034	-36.66 ± 0.40	4
0519@20	0.08		1.05	0.017	-31.21 ± 0.29	STD
0519@21	0.08		1.05	0.014	-31.14 ± 0.28	STD
0520@1	0.07		1.05	0.018	-30.75 ± 0.40	STD
0520@2	0.07		1.05	0.014	-31.51 ± 0.39	STD
0520@3	0.07		1.05	0.013	-31.12 ± 0.38	STD
<u>RFM@1</u>	<u>0.00</u>	<u>0.00</u>	<u>-2.40</u>	<u>-1.751</u>	<u>-3213.74 ± 16.68</u>	<u>1</u>
RFM@02	0.00	0.05	1.04	0.057	-39.61 ± 0.65	1
RFM@03	0.01	0.18	1.04	0.035	-42.20 ± 0.49	1
RFM@04	0.02	0.23	1.04	0.026	-37.85 ± 0.44	1
RFM@05	0.01	0.11	1.04	0.037	-39.45 ± 0.51	1
RFM@06	0.01	0.11	1.05	0.038	-34.82 ± 0.51	1
RFM@07	0.01	0.19	1.05	0.029	-34.57 ± 0.45	1
RFM@08	0.02	0.27	1.04	0.025	-43.19 ± 0.43	4
0520@4	0.07		1.05	0.013	-30.61 ± 0.38	STD
0520@5	0.07		1.05	0.013	-30.76 ± 0.38	STD
RFM@09	0.02	0.33	1.04	0.022	-44.46 ± 0.42	4
RFM@10	0.03	0.39	1.04	0.020	-44.28 ± 0.41	4

RFM@11	0.01	0.21	1.03	0.028	-46.71 ± 0.45	4
RFM@12	0.02	0.31	1.04	0.028	-41.30 ± 0.45	4
RFM@13	0.03	0.38	1.05	0.026	-30.23 ± 0.44	4
RFM@14	0.01	0.12	1.04	0.036	-44.61 ± 0.50	4
RFM@15	0.01	0.21	1.05	0.042	-35.93 ± 0.54	4
0520@6	0.06		1.05	0.013	-30.65 ± 0.39	STD
0520@7	0.07		1.05	0.013	-30.98 ± 0.38	STD
RFM@16	0.01	0.20	1.05	0.028	-30.02 ± 0.45	4
RFM@17	0.02	0.28	1.05	0.024	-30.84 ± 0.43	4
RFM@18	0.01	0.15	1.05	0.035	-34.87 ± 0.49	4
RFM@19	0.01	0.14	1.03	0.034	-52.06 ± 0.48	4
RFM@20	0.02	0.25	1.04	0.026	-37.17 ± 0.44	4
RFM@21	0.01	0.20	1.04	0.028	-41.96 ± 0.45	4
RFM@22	0.03	0.46	1.05	0.025	-36.18 ± 0.43	4
0520@8	0.07		1.05	0.013	-30.98 ± 0.38	STD
0520@9	0.07		1.05	0.013	-31.47 ± 0.38	STD
RFM@23	0.02	0.37	1.04	0.021	-43.60 ± 0.41	4
RFM@24	0.02	0.36	1.04	0.026	-40.97 ± 0.43	4
RFM@25	0.01	0.15	1.03	0.036	-47.37 ± 0.49	4
RFM@26	0.01	0.17	1.04	0.031	-45.76 ± 0.46	unknown
RFM@27	0.01	0.17	1.04	0.032	-44.05 ± 0.47	unknown
RFM@28	0.01	0.18	1.04	0.032	-43.30 ± 0.47	6
RFM@29	0.02	0.36	1.04	0.027	-38.22 ± 0.44	5

RFM@30	0.01	0.21	1.03	0.029	-46.03 ± 0.45	6
0520@10	0.07		1.05	0.017	-31.31 ± 0.40	STD
0520@11	0.07		1.05	0.013	-31.53 ± 0.38	STD
RFM@31	0.03	0.42	1.04	0.020	-41.34 ± 0.41	5
RFM@32	0.01	0.19	1.04	0.030	-45.28 ± 0.46	6
RFM@33	0.02	0.32	1.04	0.024	-40.71 ± 0.43	5
RFM@34	0.02	0.33	1.04	0.022	-41.93 ± 0.42	5
RFM@35	0.02	0.23	1.03	0.034	-48.12 ± 0.48	6
RFM@36	0.02	0.28	1.04	0.027	-40.17 ± 0.44	5
RFM@37	0.02	0.23	1.04	0.028	-45.64 ± 0.45	6
RFM@38	0.03	0.43	1.05	0.020	-34.15 ± 0.41	5
RFM@39	0.01	0.15	1.04	0.033	-42.89 ± 0.48	6
0520@12	0.07		1.05	0.013	-30.84 ± 0.38	STD
0520@13	0.07		1.05	0.013	-30.86 ± 0.38	STD
RFM@40	0.02	0.25	1.04	0.036	-43.79 ± 0.50	6
RFM@41	0.01	0.21	1.04	0.027	-43.16 ± 0.44	5
RFM@42	0.01	0.19	1.04	0.029	-45.25 ± 0.45	5
RFM@43	0.01	0.20	1.04	0.035	-45.11 ± 0.49	6
RFM@44	0.03	0.48	1.05	0.018	-35.34 ± 0.40	5
RFM@45	0.01	0.21	1.04	0.038	-45.71 ± 0.51	6
RFM@46	0.02	0.27	1.04	0.032	-42.42 ± 0.47	5
RFM@47	0.02	0.30	1.04	0.026	-42.22 ± 0.44	5
RFM@48	0.02	0.26	1.04	0.025	-43.16 ± 0.43	6

RFM@49	0.02	0.28	1.04	0.024	-40.27 ± 0.43	5
0520@14	0.07		1.05	0.014	-30.48 ± 0.39	STD
0520@15	0.07		1.05	0.013	-31.01 ± 0.38	STD
RFM@50	0.01	0.20	1.04	0.028	-43.04 ± 0.45	6
RFM@51	0.02	0.26	1.04	0.025	-42.92 ± 0.43	5
RFM@52	0.02	0.26	1.04	0.032	-42.20 ± 0.47	5
RFM@53	0.02	0.24	1.04	0.026	-41.96 ± 0.44	6
RFM@54	0.03	0.42	1.04	0.023	-42.41 ± 0.42	5
RFM@55	0.02	0.27	1.04	0.025	-44.51 ± 0.43	6
RFM@56	0.02	0.22	1.04	0.034	-43.78 ± 0.48	5
RFM@57	0.01	0.21	1.04	0.029	-45.32 ± 0.45	6
0520@16	0.07		1.05	0.013	-31.07 ± 0.38	STD
RFM@58	0.02	0.36	1.05	0.024	-33.27 ± 0.43	5
RFM@59	0.02	0.24	1.04	0.035	-39.88 ± 0.49	6
RFM@60	0.02	0.25	1.04	0.025	-39.17 ± 0.43	5
RFM@61	0.02	0.33	1.04	0.031	-38.89 ± 0.47	5
RFM@62	0.02	0.27	1.04	0.038	-45.69 ± 0.51	6
RFM@63	0.03	0.39	1.04	0.021	-39.76 ± 0.41	5
RFM@64	0.02	0.30	1.04	0.023	-39.43 ± 0.42	6
RFM@65	0.02	0.33	1.05	0.022	-35.75 ± 0.42	5
0520@18	0.07		1.05	0.013	-30.69 ± 0.38	STD
0520@19	0.07		1.05	0.014	-30.95 ± 0.39	STD
RFM@66	0.02	0.36	1.05	0.021	-32.66 ± 0.42	5

RFM@67	0.03	0.42	1.05	0.020	-34.76 ± 0.41	6
RFM@68	0.02	0.30	1.04	0.026	-43.84 ± 0.43	5
RFM@69	0.01	0.19	1.04	0.031	-41.25 ± 0.47	6
RFM@70	0.02	0.27	1.04	0.028	-43.05 ± 0.45	5
RFM@71	0.02	0.31	1.04	0.023	-38.92 ± 0.42	5
RFM@72	0.01	0.20	1.04	0.028	-42.39 ± 0.45	6
RFM@73	0.02	0.28	1.04	0.024	-39.50 ± 0.43	5
0520@20	0.07		1.05	0.013	-30.65 ± 0.38	STD
0520@21	0.06		1.05	0.013	-31.83 ± 0.38	STD
RFM@74	0.02	0.32	1.04	0.025	-40.33 ± 0.43	5
RFM@75	0.01	0.20	1.04	0.032	-45.04 ± 0.47	6
RFM@76	0.03	0.41	1.04	0.020	-37.33 ± 0.41	5
RFM@77	0.02	0.24	1.03	0.035	-46.76 ± 0.49	6
RFM@78	0.02	0.33	1.04	0.023	-38.50 ± 0.42	5
RFM@79	0.02	0.31	1.04	0.026	-44.32 ± 0.43	6
RFM@80	0.02	0.36	1.04	0.022	-42.22 ± 0.41	5
RFM@81	0.02	0.37	1.05	0.021	-35.52 ± 0.42	5
0520@22	0.07		1.05	0.014	-31.00 ± 0.39	STD
0520@23	0.07		1.05	0.015	-31.24 ± 0.39	STD
RFM@82	0.01	0.18	1.05	0.030	-36.51 ± 0.46	1
RFM@83	0.01	0.18	1.03	0.030	-46.43 ± 0.46	1
RFM@84	0.02	0.31	1.04	0.031	-38.56 ± 0.47	1
RFM@85	0.01	0.21	1.04	0.028	-40.37 ± 0.45	1

RFM@86	0.02	0.23	1.04	0.028	-41.12 ± 0.45	1
RFM@87	0.03	0.39	1.05	0.021	-33.65 ± 0.41	1
RFM@88	0.01	0.21	1.04	0.028	-41.43 ± 0.45	1
RFM@89	0.01	0.20	1.04	0.028	-40.40 ± 0.45	1
0520@24	0.07		1.05	0.013	-30.51 ± 0.38	STD
0520@25	0.07		1.05	0.013	-31.22 ± 0.38	STD

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