

Five More Phases of the Structural Family $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$

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Synopsis: Structures of five more phases of the $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$ ($M = \text{Mg, Mn, Fe, Co, Ni, Cu, Zn}$) family have been determined. All stable phases whose existence at accessible temperatures is indicated by DSC have now been characterized.

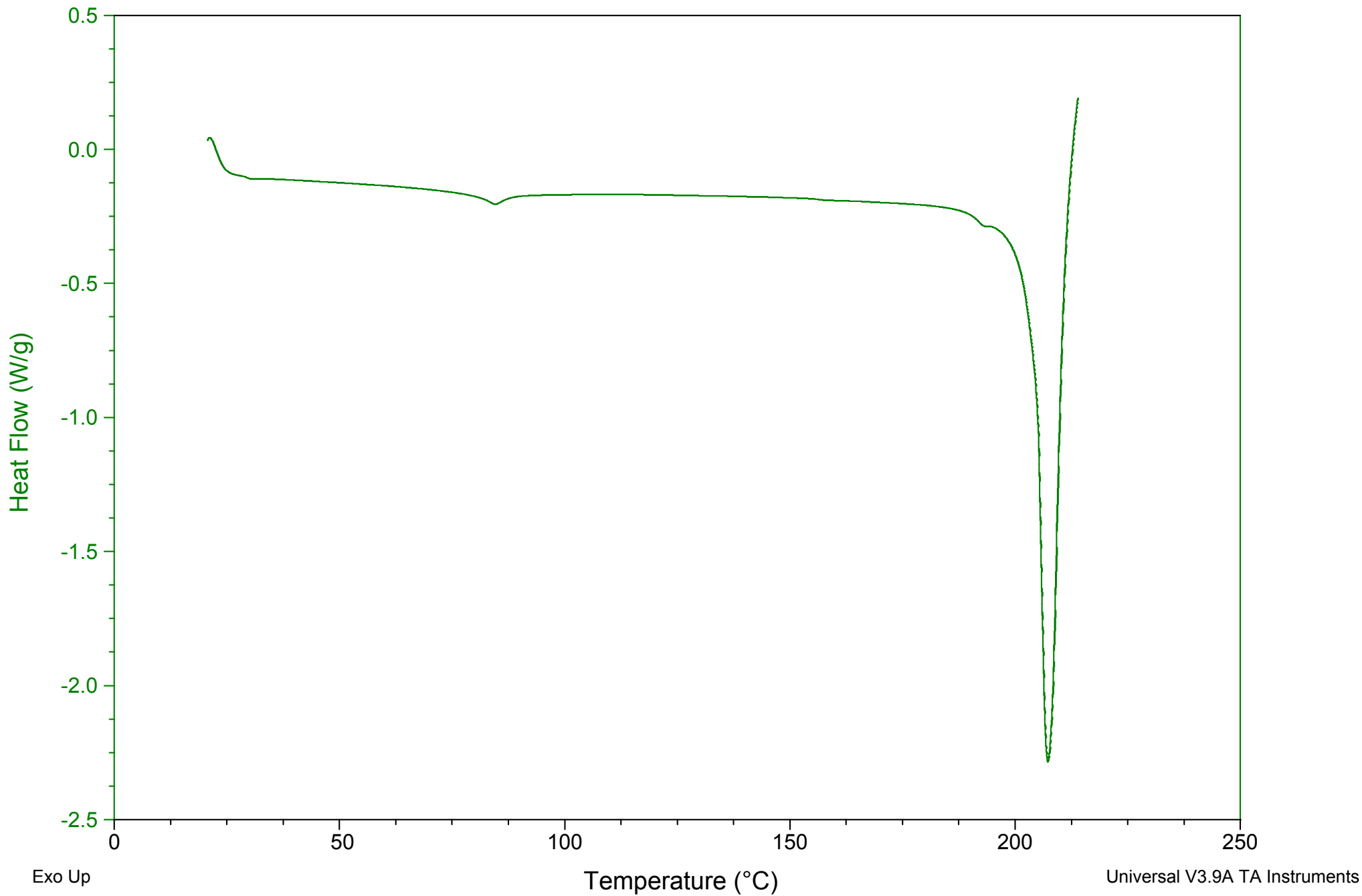
Supplementary Material

1. DSC traces for $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$, $M = \text{Mg}$ (3 pages)
2. DSC traces for $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$, $M = \text{Mn}$, triclinic form (3 pages)
3. DSC traces for $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$, $M = \text{Mn}$, tetragonal form (3 pages)
4. DSC traces for $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$, $M = \text{Fe}$ (1 pages)
5. DSC traces for $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$, $M = \text{Co}$ (3 pages)
6. DSC traces for $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$, $M = \text{Ni}$ (1 pages)
7. DSC traces for $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$, $M = \text{Cu}$ (4 pages)
8. DSC traces for $[M(\text{H}_2\text{O})_2(15\text{-crown-5})](\text{NO}_3)_2$, $M = \text{Zn}$ (4 pages)

Sample: magnesium 15-crown-5 (FW = 404.62 g/mol)
Size: 8.80 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

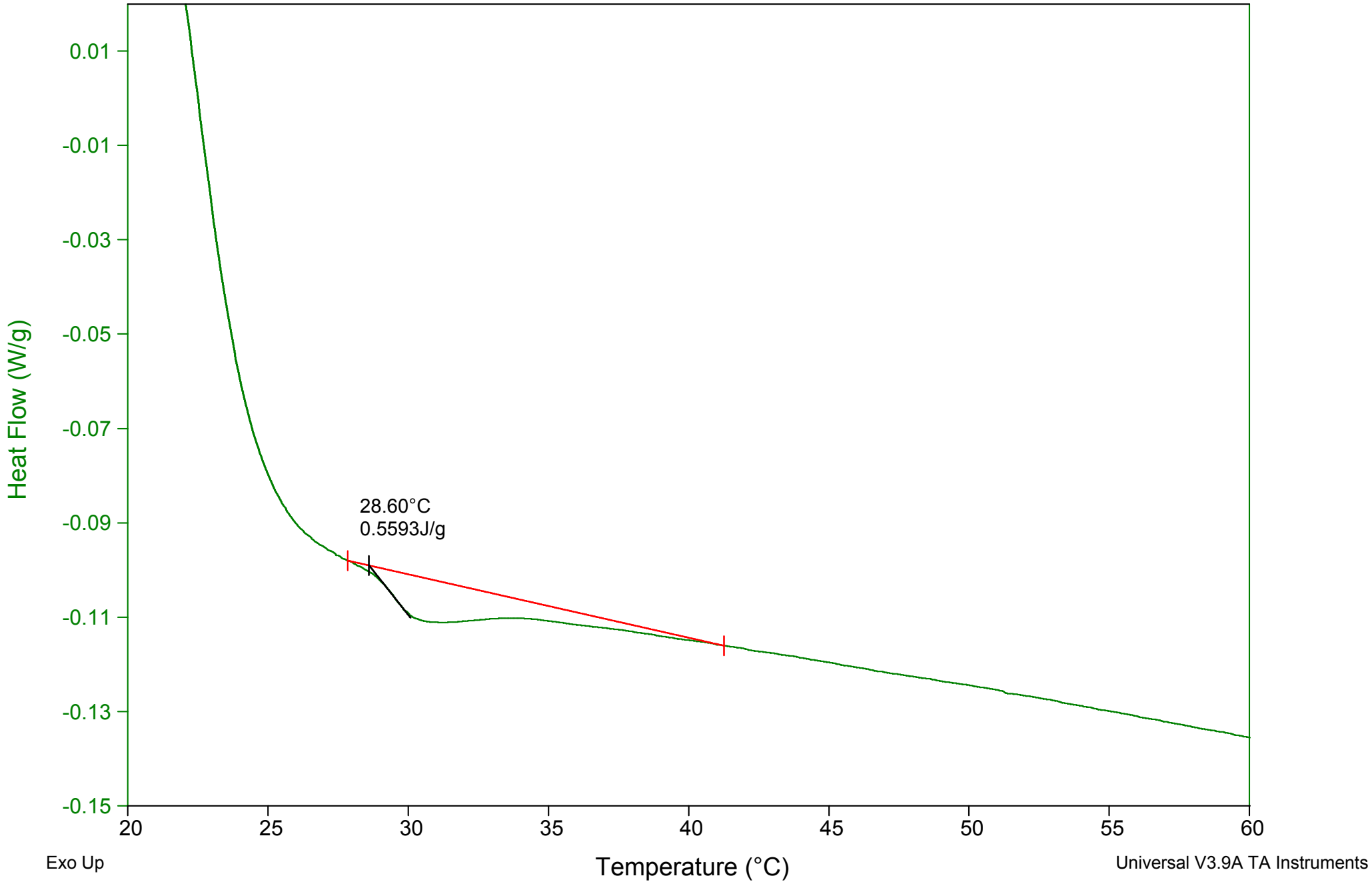
File: C:\...\DSC\Hao\crown2004\magnesium.001
Operator: Xiang Hao
Run Date: 4-May-04 11:08
Instrument: 2920 MDSC V2.6A



Sample: magnesium 15-crown-5 (FW = 404.62 g/mol)
Size: 8.80 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

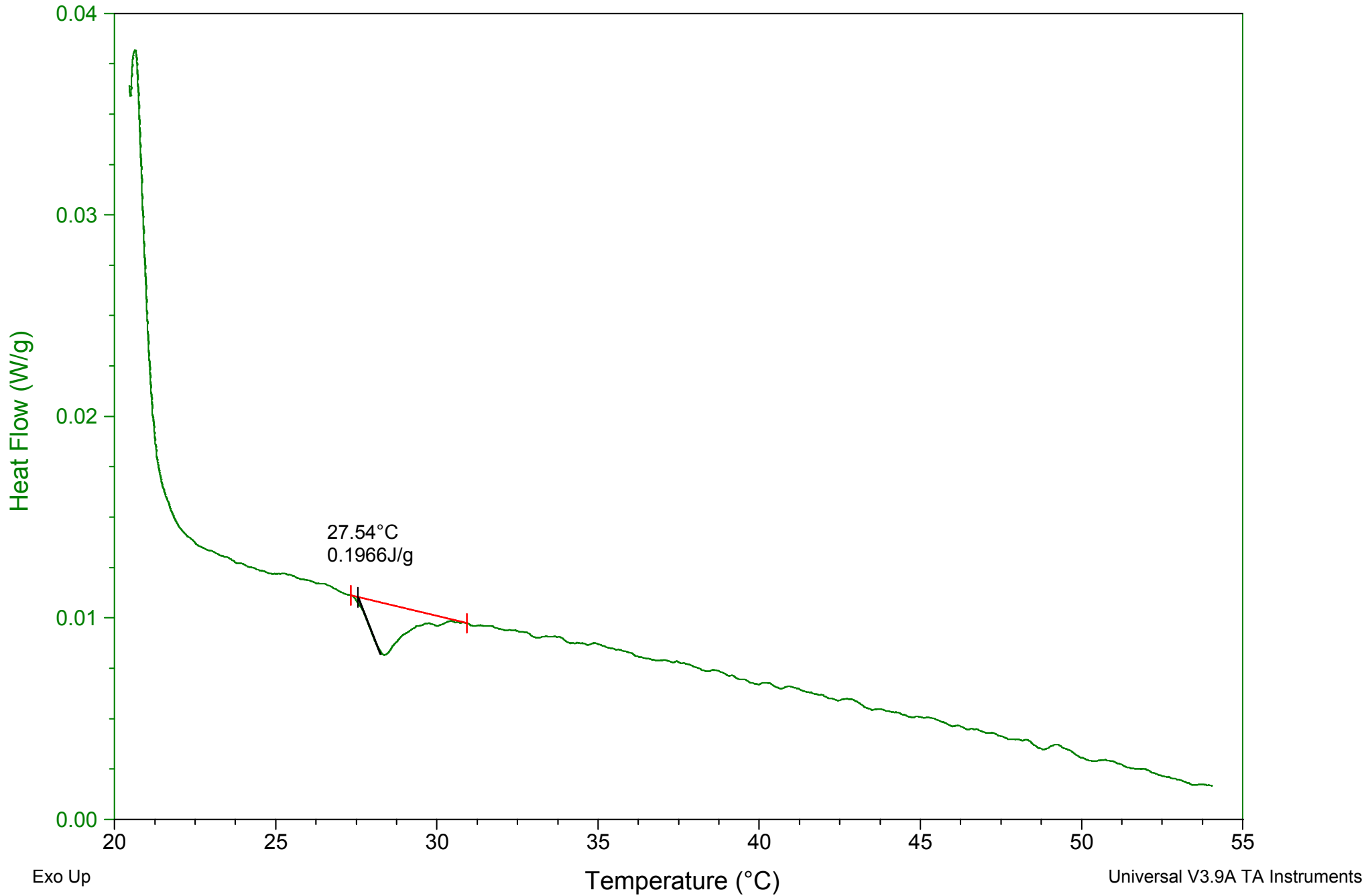
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Run Date: 4-May-04 11:08
Instrument: 2920 MDSC V2.6A



Sample: Mg 15-crown-5 (FW = 404.62)
Size: 7.9800 mg
Method: Ramp at 1 deg/min
Comment: The uncertainty of weight is +/- 0.02 mg.

DSC

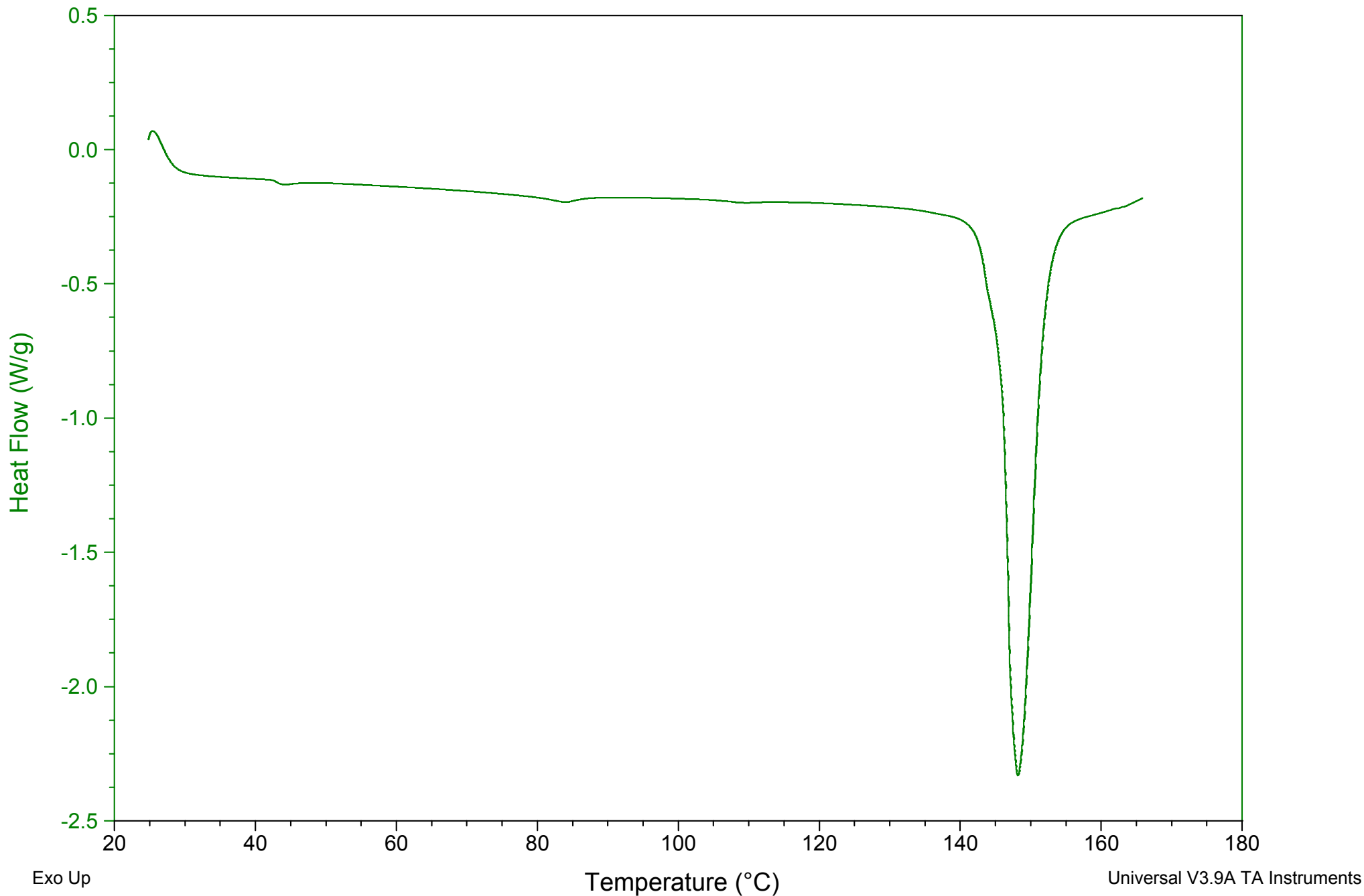
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Operator: Xiang Hao
Run Date: 7-May-04 10:33
Instrument: 2920 MDSC V2.6A



Sample: Mn 15-crown-5 P-1 (FW=435.25)
Size: 7.7000 mg
Method: Ramp at 5 deg/min
Comment: The uncertainty of the weight is +/- 0.02 mg.

DSC

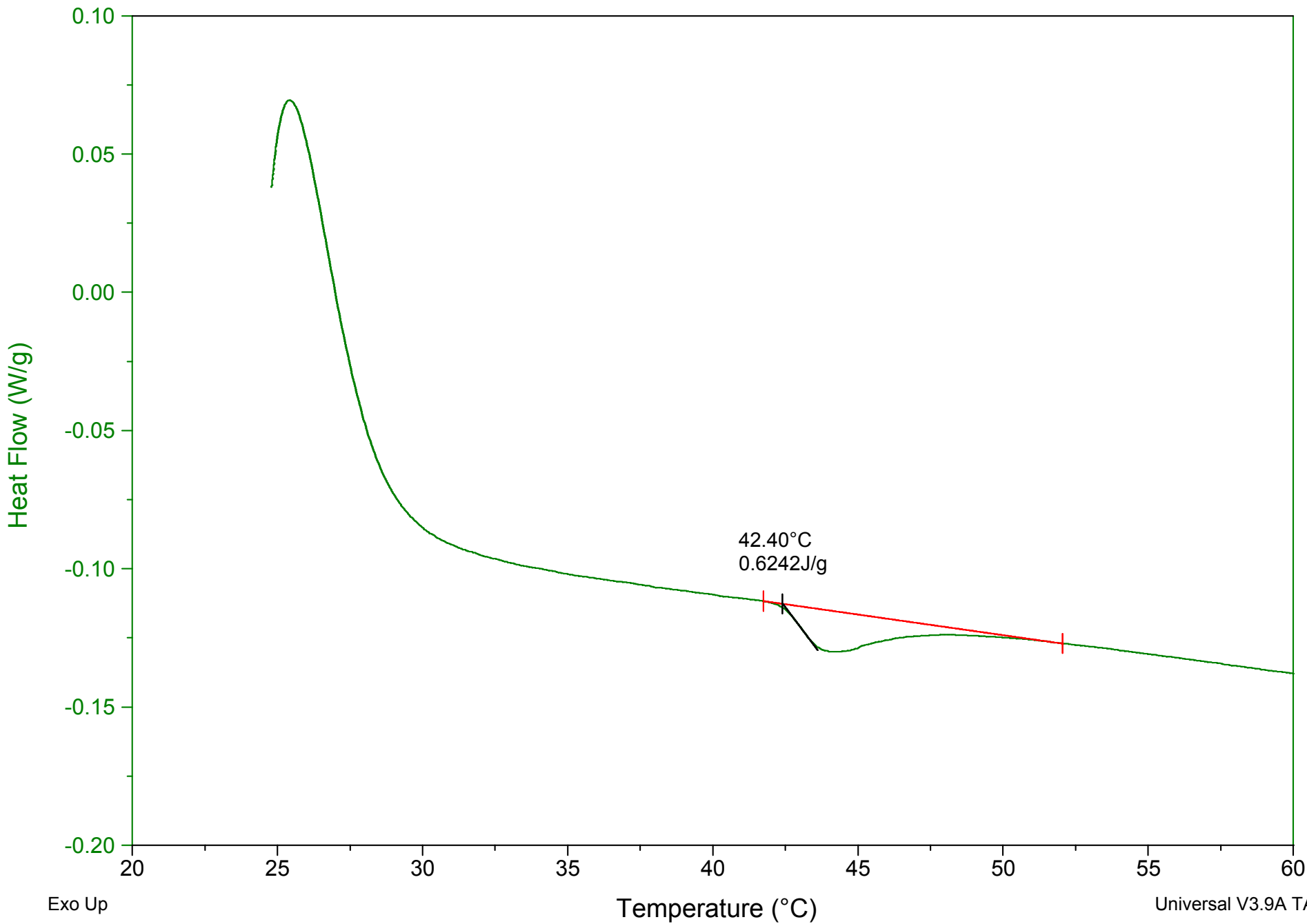
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Operator: Xiang Hao
Run Date: 24-May-04 17:00
Instrument: 2920 MDSC V2.6A



Sample: Mn 15-crown-5 P-1 (FW=435.25)
Size: 7.7000 mg
Method: Ramp at 5 deg/min
Comment: The uncertainty of the weight is +/- 0.02 mg.

DSC

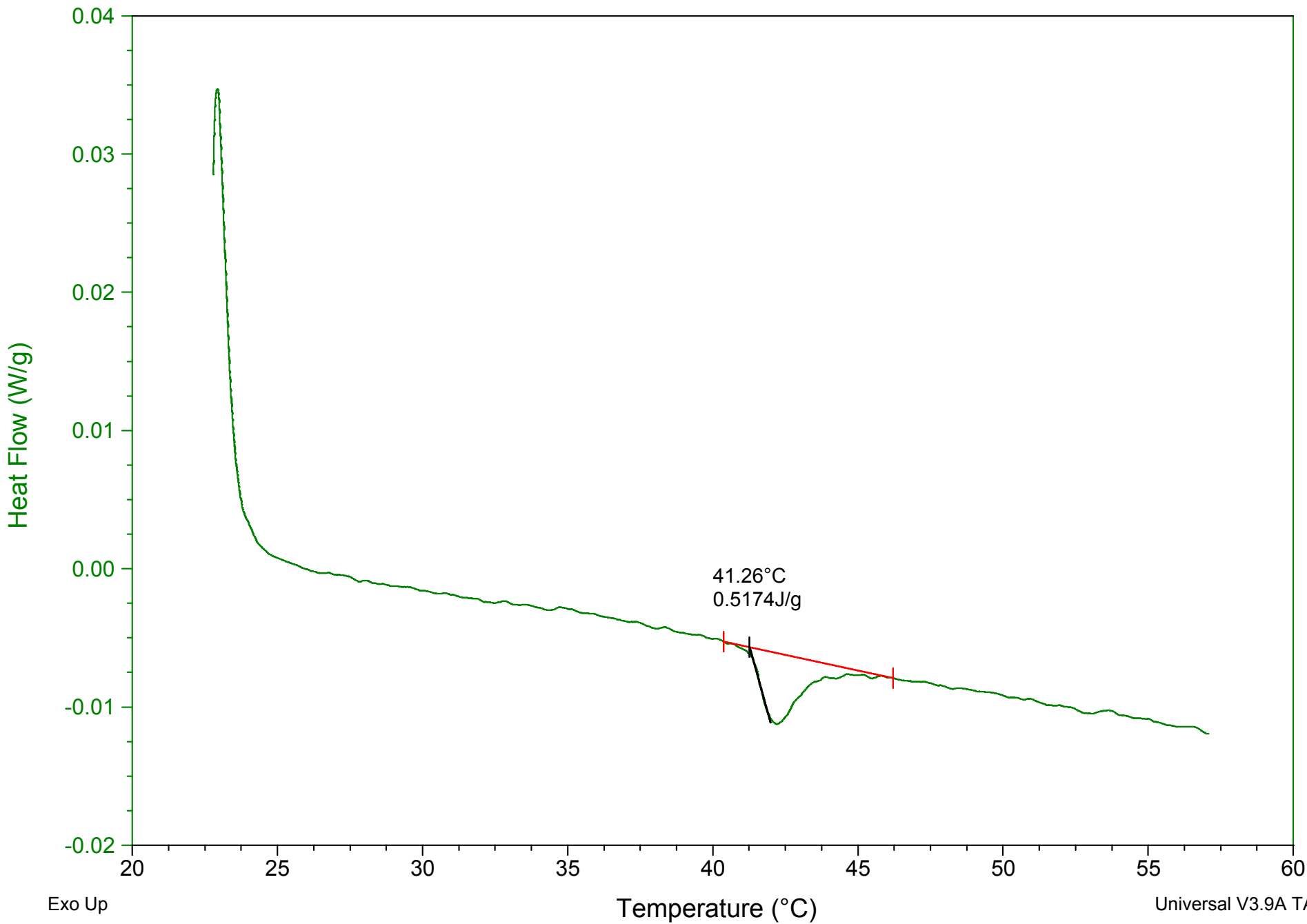
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Instrument: 2920 MDSC V2.6A



Sample: Mn 15-crown-5 P-1 (FW=435.25)
Size: 8.7100 mg
Method: ramp at 1 deg/min
Comment: The uncertainty of the weight is +/- 0.02 mg.

DSC

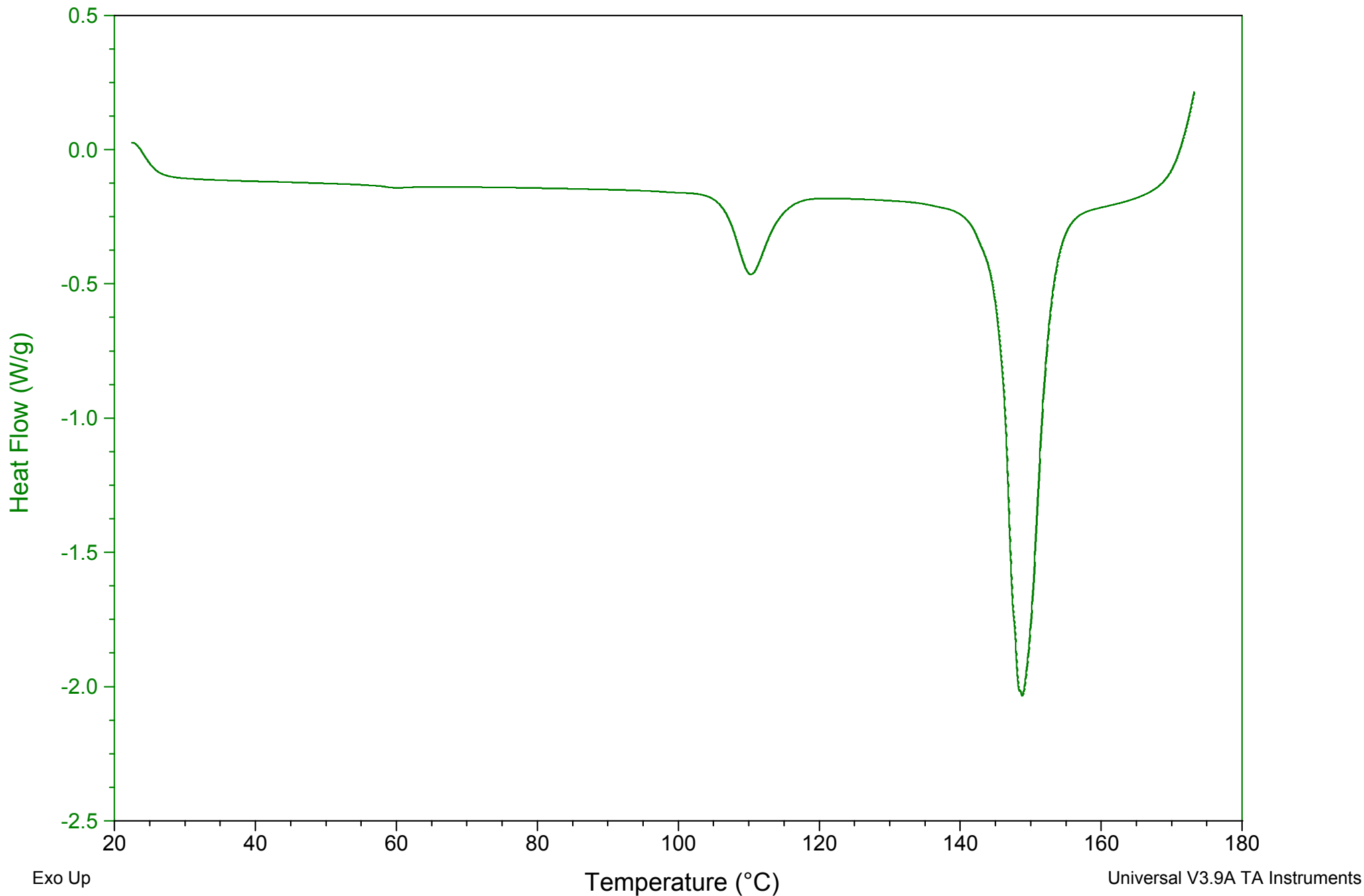
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Run Date: 1-Jun-04 14:05
Instrument: 2920 MDSC V2.6A



Sample: manganese 15-crown-5 P43 (FW = 435.25 g/mol)
Size: 11.20 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

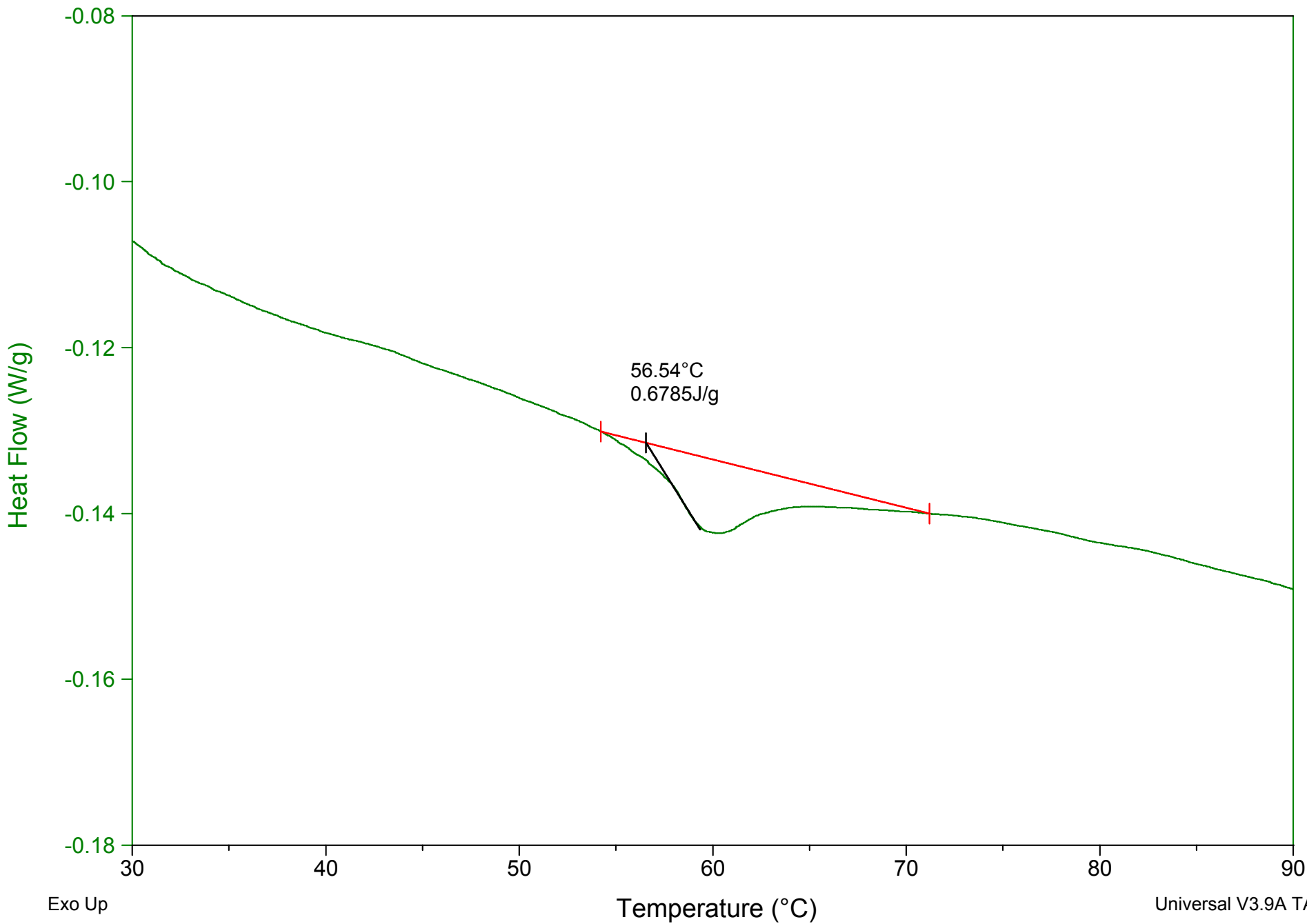
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Operator: Xiang Hao
Run Date: 4-May-04 15:26
Instrument: 2920 MDSC V2.6A



Sample: manganese 15-crown-5 P43 (FW = 435.25 g/mol)
Size: 11.20 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

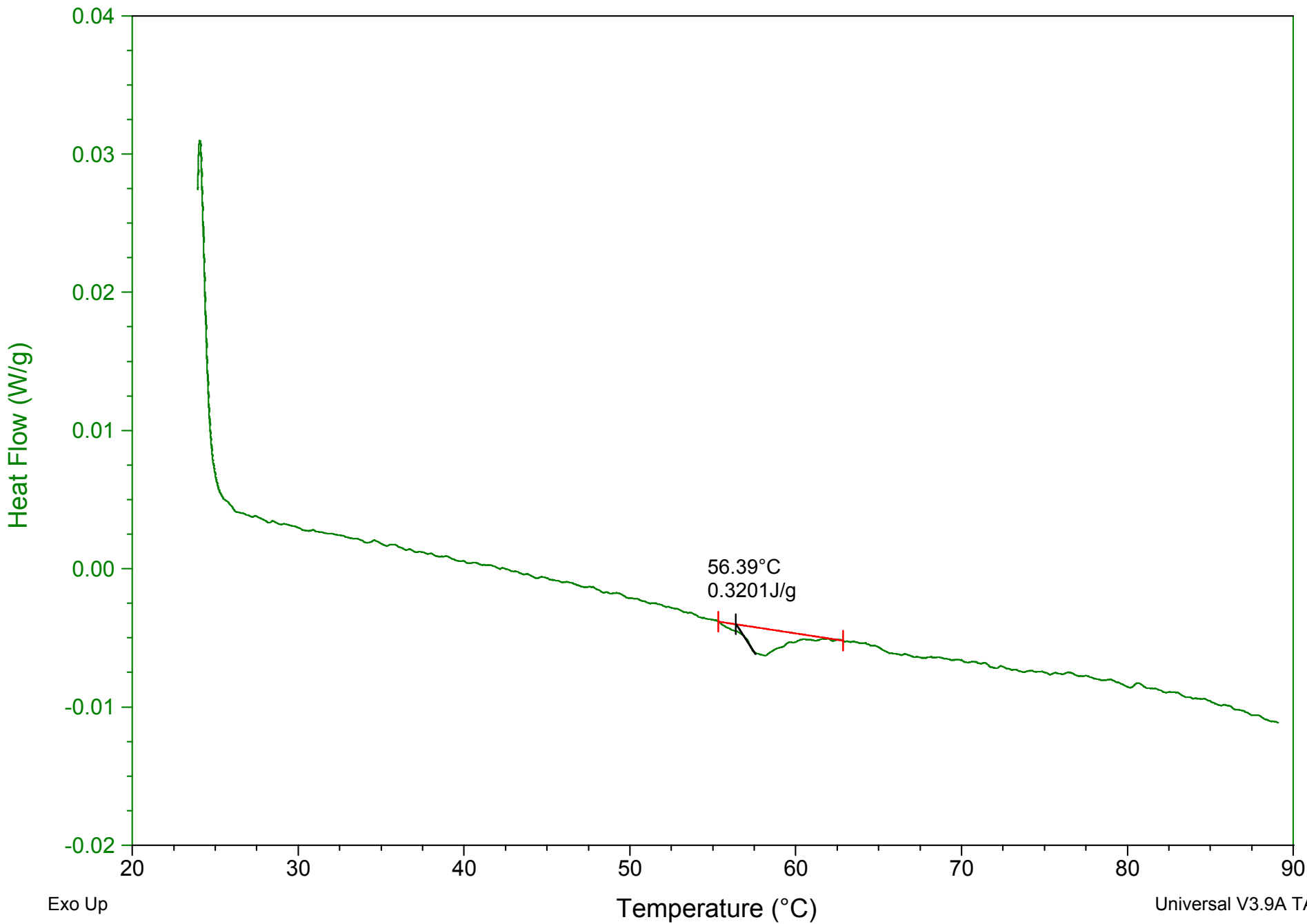
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Operator: Xiang Hao
Run Date: 4-May-04 15:26
Instrument: 2920 MDSC V2.6A



Sample: Mn 15-crown-5 P4(3) (FW=435.25)
Size: 10.2400 mg
Method: Ramp at 1 deg/min
Comment: The uncertainty of weight is +/- 0.02 mg.

DSC

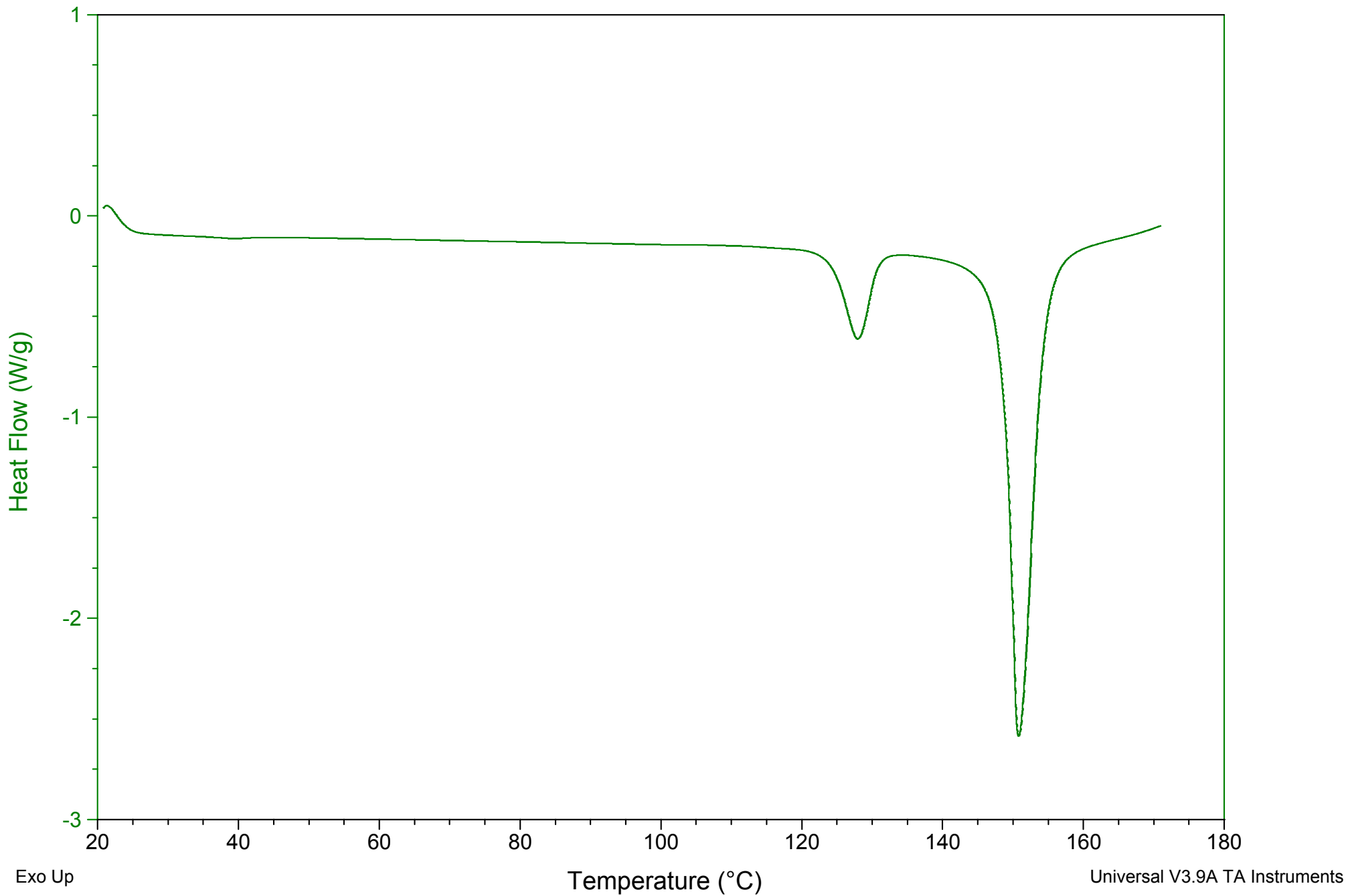
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Operator: Xiang Hao
Run Date: 6-May-04 15:09
Instrument: 2920 MDSC V2.6A



Sample: cobalt 15-crown-5 (FW = 439.24 g/mol)
Size: 7.29 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

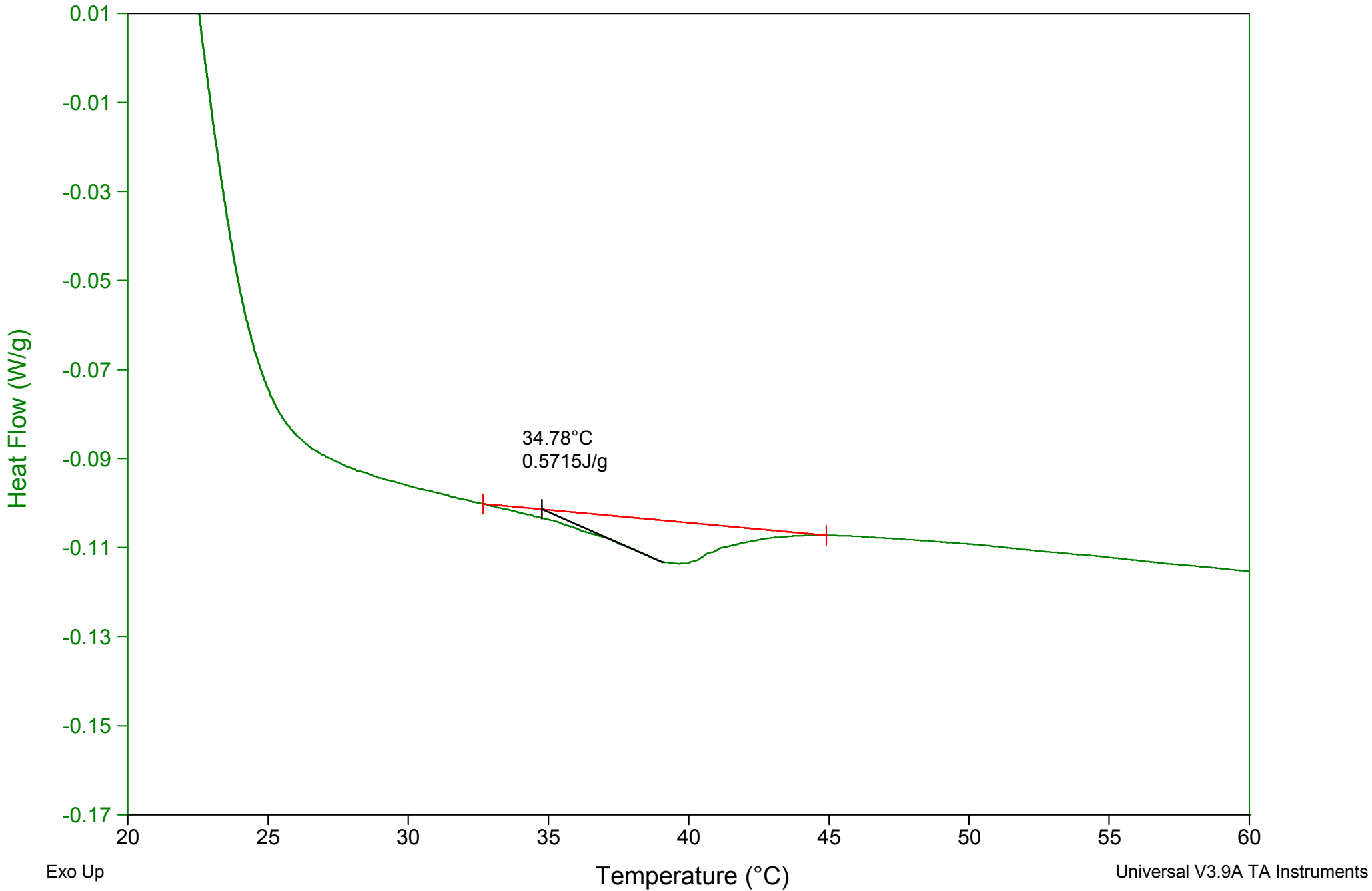
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Instrument: 2920 MDSC V2.6A



Sample: cobalt 15-crown-5 (FW = 439.24 g/mol)
Size: 7.29 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

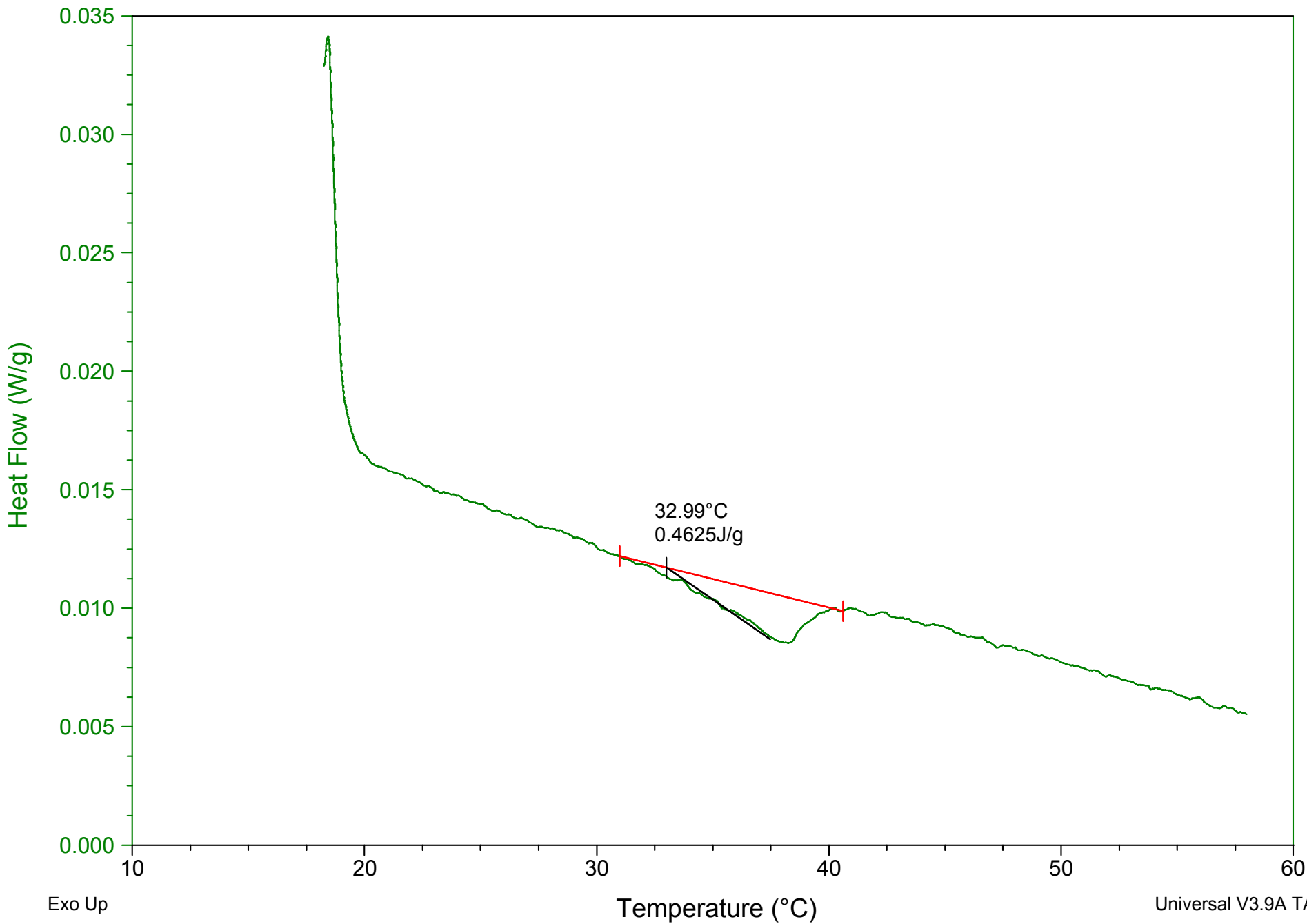
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Instrument: 2920 MDSC V2.6A



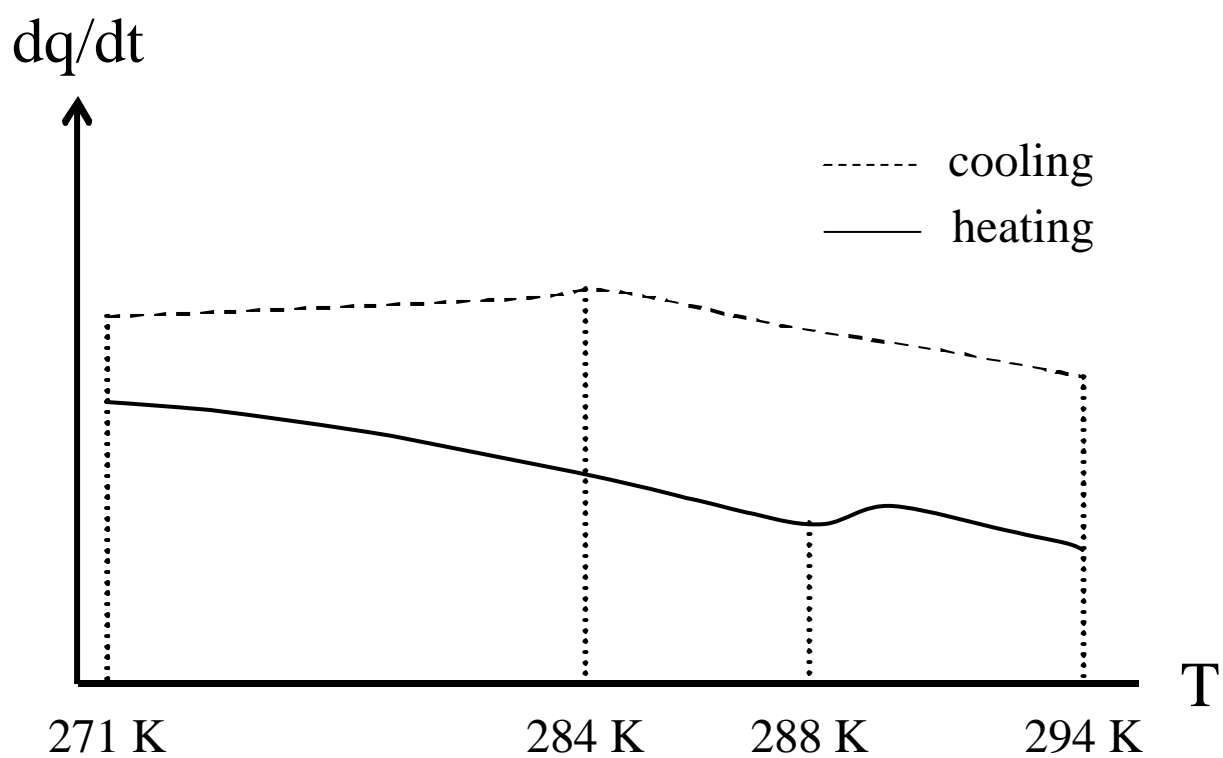
Sample: Co 15-crown-5 (FW = 439.24)
Size: 7.7600 mg
Method: Ramp at 1 deg/min
Comment: The uncertainty of weight is +/- 0.02 mg.

DSC

File: C:\TA\Data\DSC\Hao\crown2004\cobalt.002
Operator: Xiang Hao
Run Date: 7-May-04 11:27
Instrument: 2920 MDSC V2.6A



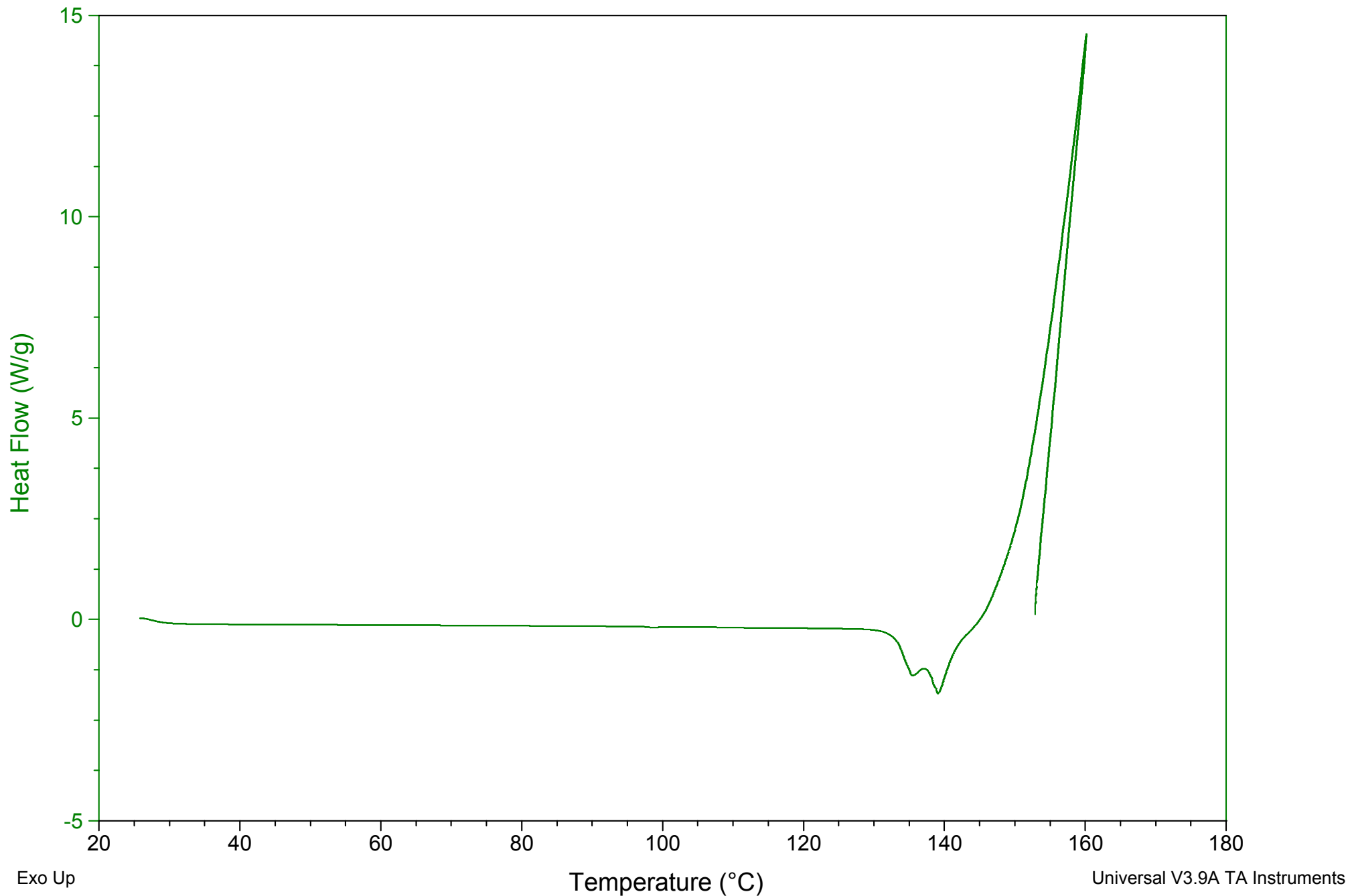
$M = \text{Ni}$



Sample: copper 15-crown-5 (FW = 443.85 g/mol)
Size: 10.80 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

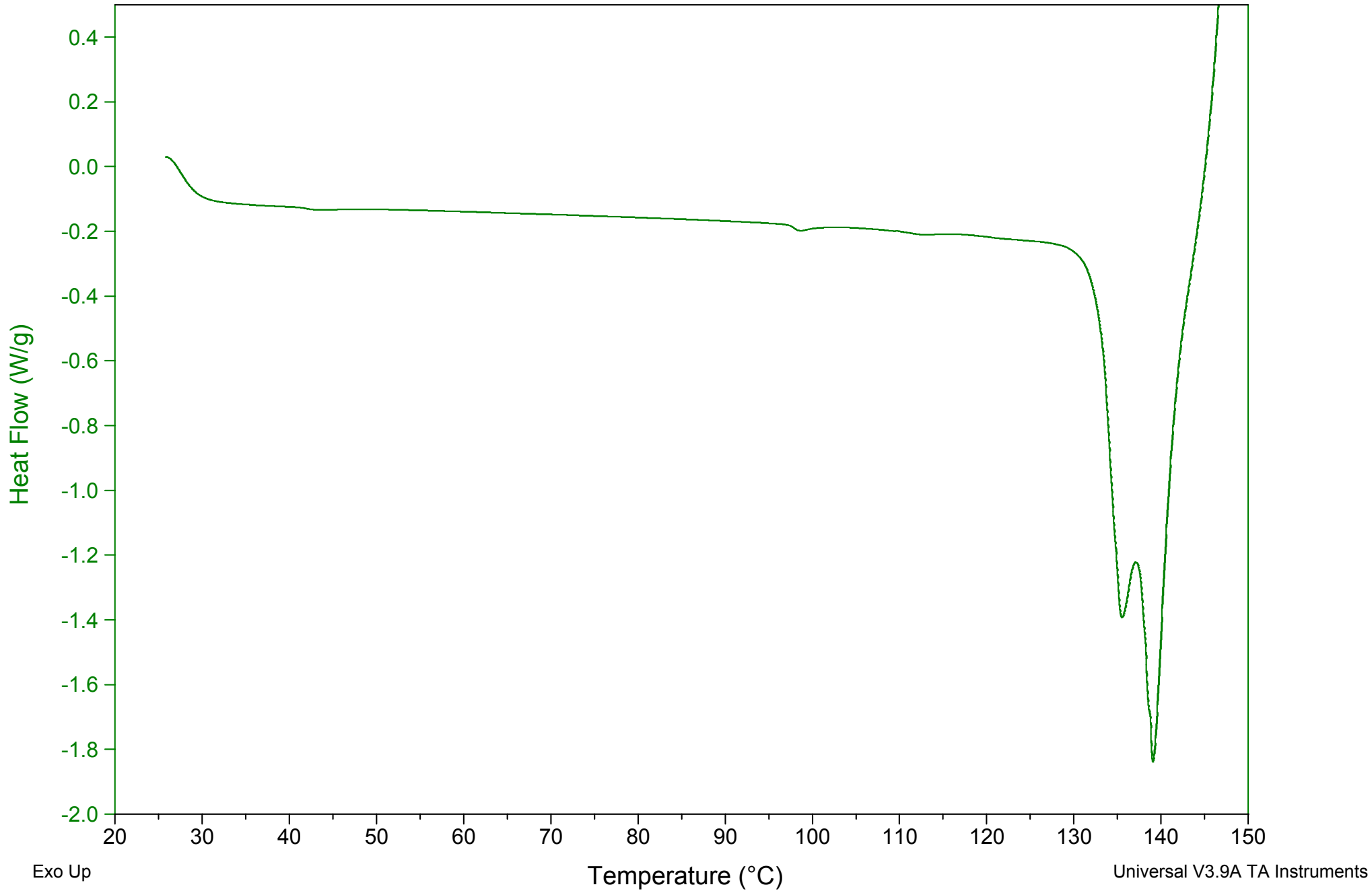
File: C:\TA\Data\DSC\Hao\crown2004\copper.001
Operator: Xiang Hao
Run Date: 3-May-04 17:51
Instrument: 2920 MDSC V2.6A



Sample: copper 15-crown-5 (FW = 443.85 g/mol)
Size: 10.80 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

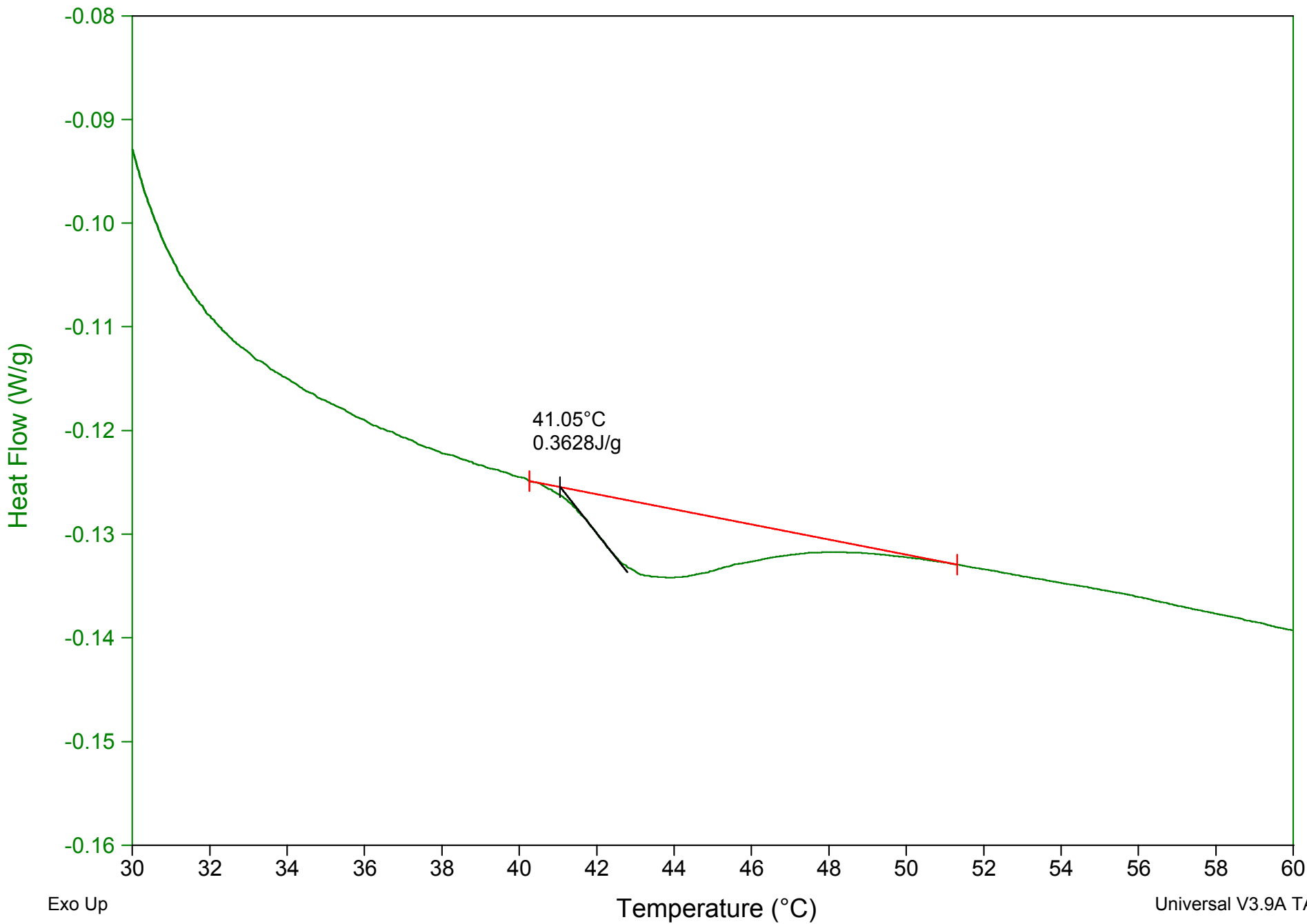
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Operator: Xiang Hao
Run Date: 3-May-04 17:51
Instrument: 2920 MDSC V2.6A



Sample: copper 15-crown-5 (FW = 443.85 g/mol)
Size: 10.80 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

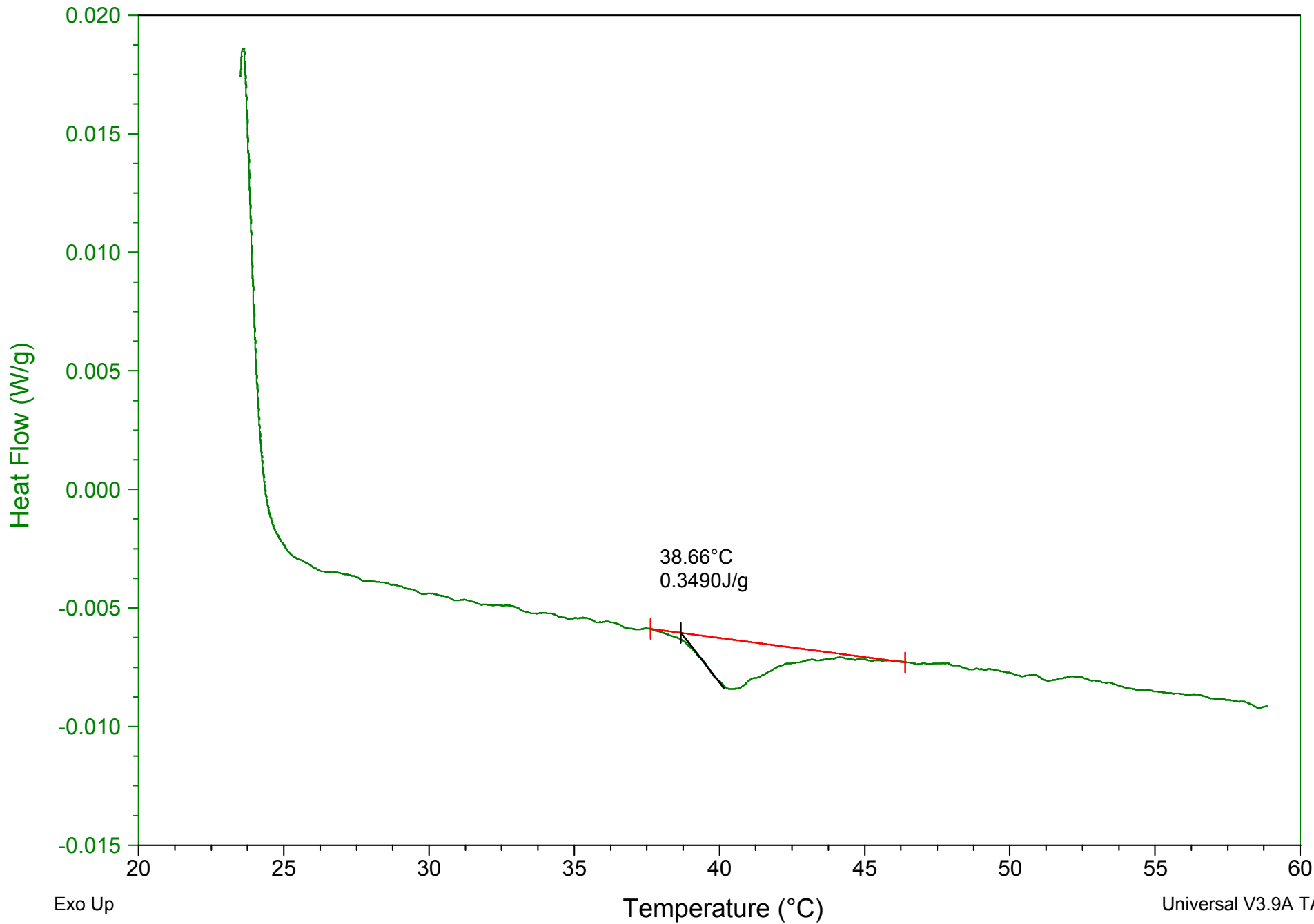
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Operator: Xiang Hao
Run Date: 3-May-04 17:51
Instrument: 2920 MDSC V2.6A



Sample: copper 15-crown-5 (FW = 443.85)
Size: 15.4000 mg
Method: Ramp at 1 deg/min
Comment: The uncertainty of weight is +/- 0.02 mg.

DSC

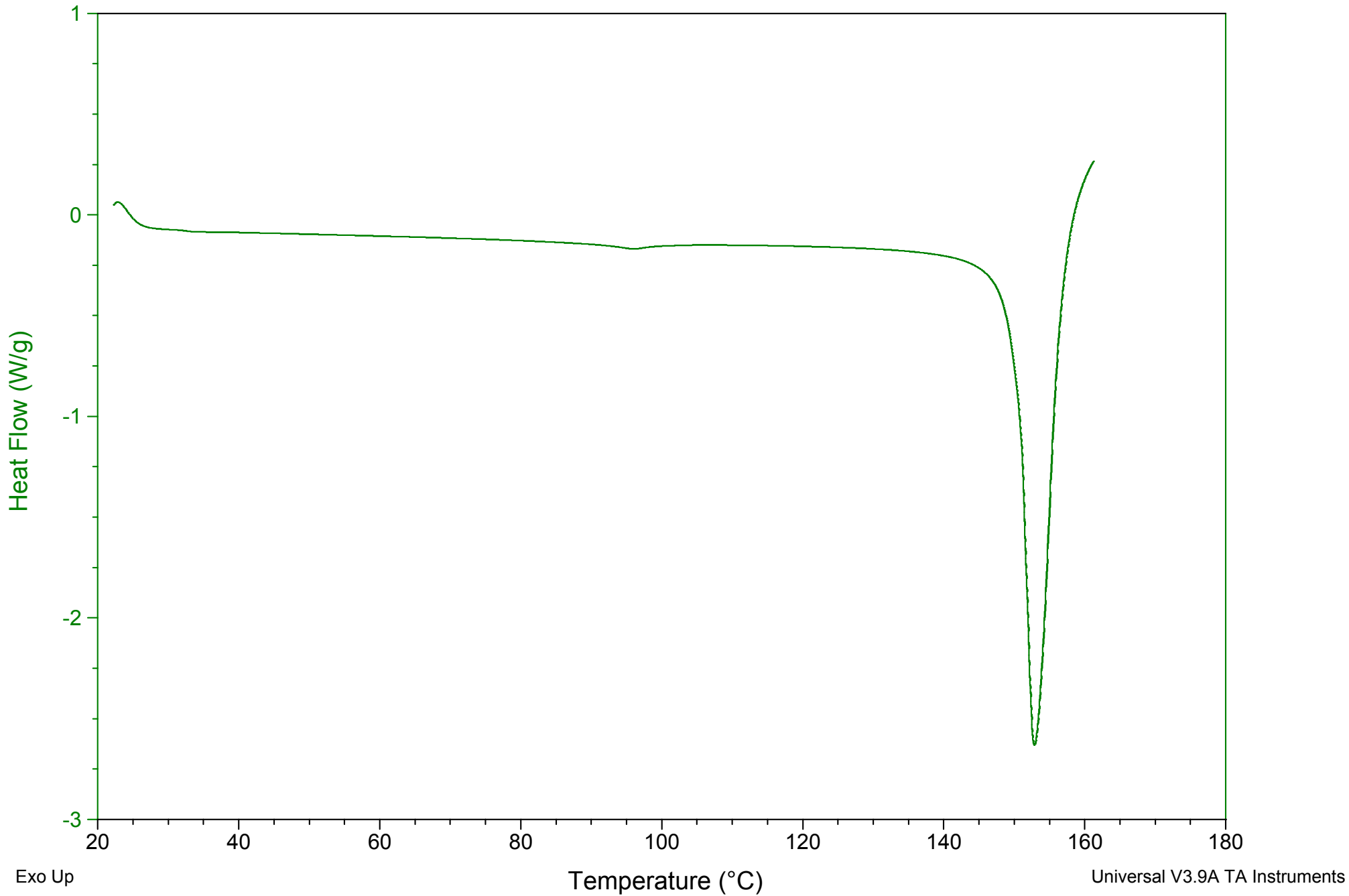
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Operator: Xiang Hao
Run Date: 5-May-04 15:28
Instrument: 2920 MDSC V2.6A



Sample: zinc 15-crown-5 (FW = 445.68 g/mol)
Size: 6.91 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

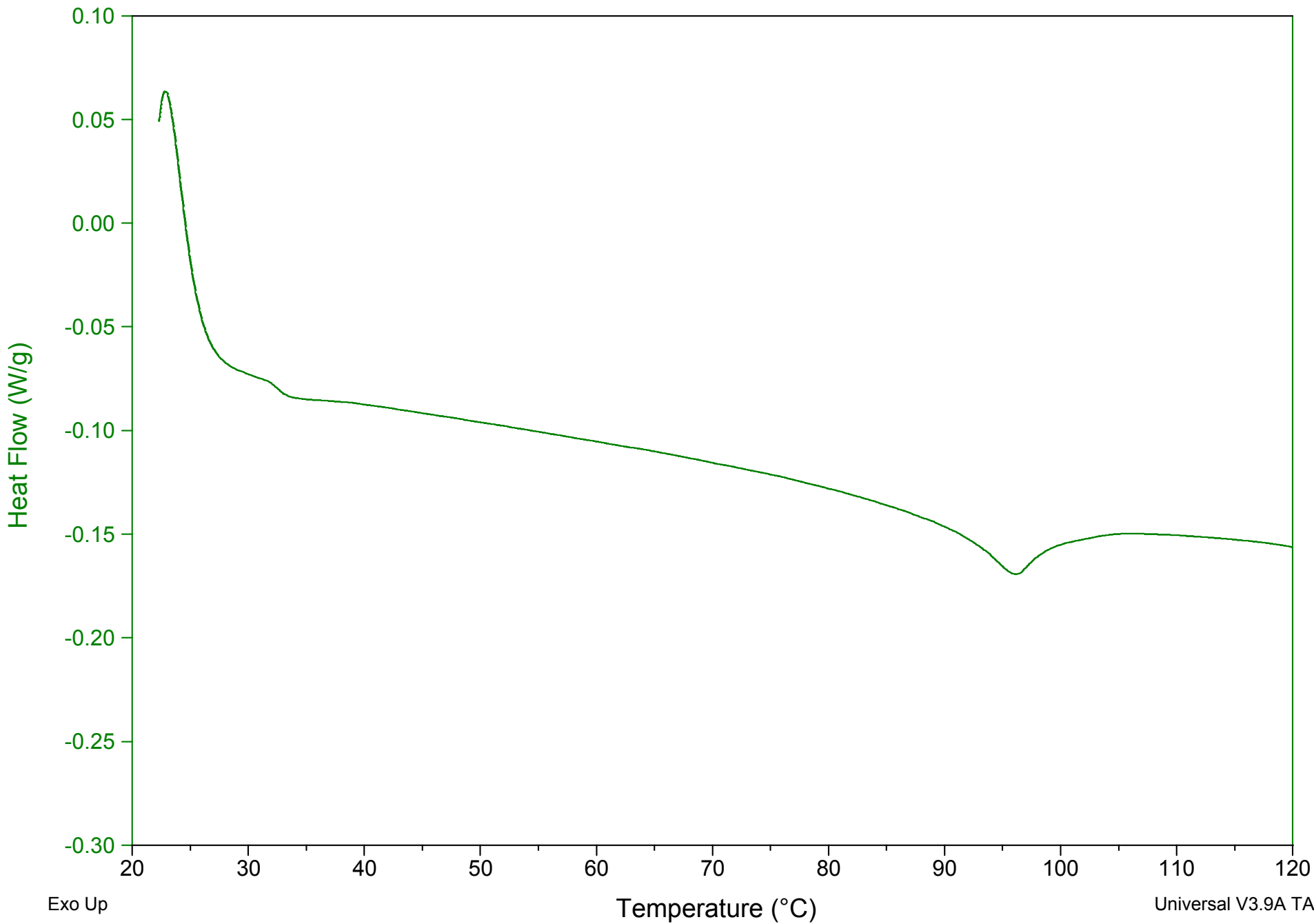
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Operator: Xiang Hao
Run Date: 4-May-04 09:40
Instrument: 2920 MDSC V2.6A



Sample: zinc 15-crown-5 (FW = 445.68 g/mol)
Size: 6.91 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

File: C:\TA\Data\DSC\Hao\crown2004\zinc.001
Operator: Xiang Hao
Run Date: 4-May-04 09:40
Instrument: 2920 MDSC V2.6A



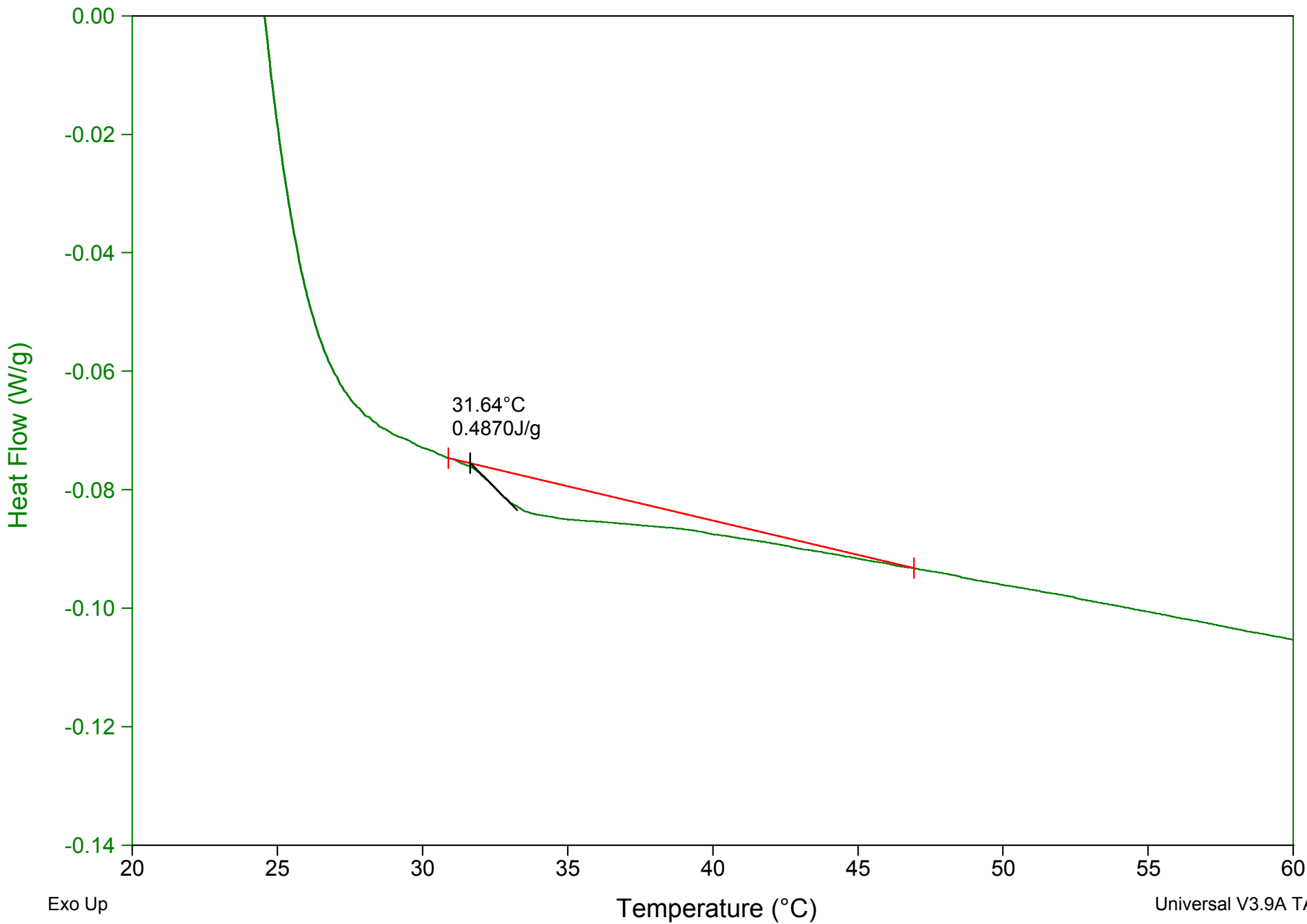
Exo Up

Universal V3.9A TA Instruments

Sample: zinc 15-crown-5 (FW = 445.68 g/mol)
Size: 6.91 +/- 0.02 mg
Method: Ramp at 5 deg/min

DSC

File: C:\TA\Data\DSC\Hao\crown2004\zinc.001
Operator: Xiang Hao
Run Date: 4-May-04 09:40
Instrument: 2920 MDSC V2.6A



Sample: Zn 15-crown-5 (FW = 445.68)
Size: 15.8000 mg
Method: Ramp at 1 deg/min
Comment: The uncertainty of weight is +/- 0.02 mg.

DSC

File: C:\TA\Data\DSC\Hao\crown2004\zinc.002
Operator: Xiang Hao
Run Date: 7-May-04 09:30
Instrument: 2920 MDSC V2.6A

