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Supporting information for article:

**The synthesis and characterization of a series of cocrystals of an
isoniazid derivative with butan-2-one and propan-2-one**

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S1 Hydrogen Bond tables**Table 1** Hydrogen-bond geometry (Å, °) for (izbt+1nta)

| <i>D</i> —H··· <i>A</i> | <i>D</i> —H | H··· <i>A</i> | <i>D</i> ··· <i>A</i> | <i>D</i> —H··· <i>A</i> |
|--------------------------|-------------|---------------|-----------------------|-------------------------|
| C1—H1···O3 | 0.95 | 2.51 | 3.208 (2) | 130 |
| C8—H8C···O1 ⁱ | 0.98 | 2.62 | 3.128 (2) | 112 |
| N2—H2···O1 ⁱ | 0.89 (2) | 1.98 (2) | 2.8732 (17) | 174 (2) |
| O2—H2B···N1 | 0.87 (3) | 1.88 (3) | 2.7472 (18) | 173 (2) |

Symmetry code: (i) $x - 1/2, -y + 3/2, z - 1/2$.**Table 2** Hydrogen-bond geometry (Å, °) for (izbt+24dhba)

| <i>D</i> —H··· <i>A</i> | <i>D</i> —H | H··· <i>A</i> | <i>D</i> ··· <i>A</i> | <i>D</i> —H··· <i>A</i> |
|--------------------------|-------------|---------------|-----------------------|-------------------------|
| N1—H1···O5 ⁱ | 0.88 | 2.58 | 3.124 (3) | 121 |
| O2—H2···N2 | 0.84 | 1.8 | 2.633 (3) | 175 |
| O4—H4···O3 | 0.84 | 1.82 | 2.568 (3) | 147 |
| O5—H5···O1 ⁱⁱ | 0.84 | 1.85 | 2.665 (3) | 163 |

Symmetry codes: (i) $-x + 3/2, y + 1/2, -z + 1/2$; (ii) $x + 3/2, -y + 1/2, z + 1/2$.**Table 3** Hydrogen-bond geometry (Å, °) for (izact + 1nta)

| <i>D</i> —H··· <i>A</i> | <i>D</i> —H | H··· <i>A</i> | <i>D</i> ··· <i>A</i> | <i>D</i> —H··· <i>A</i> |
|--------------------------|-------------|---------------|-----------------------|-------------------------|
| O2—H2B···N1 | 0.84 | 1.94 | 2.7758 (18) | 179 |
| N2—H2A···O1 ⁱ | 0.88 | 2.07 | 2.9375 (17) | 169 |

Symmetry codes: (i) $x + 1/2, -y + 3/2, z + 1/2$;**Table 4** Hydrogen-bond geometry (Å, °) for (izbt+2c4n)

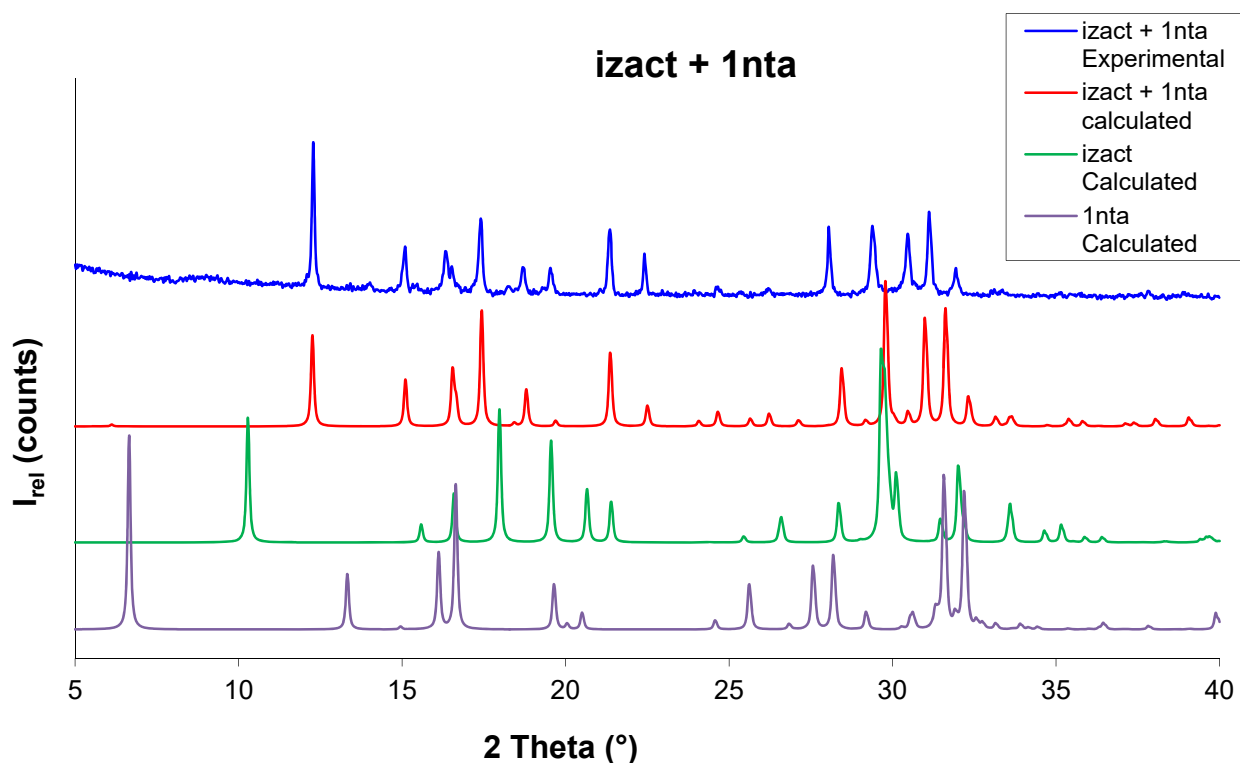
| <i>D</i> —H··· <i>A</i> | <i>D</i> —H | H··· <i>A</i> | <i>D</i> ··· <i>A</i> | <i>D</i> —H··· <i>A</i> |
|-------------------------|-------------|---------------|-----------------------|-------------------------|
| N2—H2···O1 ⁱ | 0.88(2) | 2.05(2) | 2.881(13) | 158(2) |
| O2—H2B···N1 | 0.96(3) | 1.65(3) | 2.608(13) | 173(2) |

Symmetry codes: (i) $x - 1/2, -y + 3/2, z - 1/2$

Table 5 Hydrogen-bond geometry (\AA , $^\circ$) for (izbt+25dhba)

| Table 6 $D-H\cdots A$ | $D-H$ | $H\cdots A$ | $D\cdots A$ | $D-H\cdots A$ |
|------------------------------------|----------|-------------|-------------|---------------|
| O2—H2B \cdots N1 | 0.84 | 1.76 | 2.596 (2) | 173 |
| O4—H4A \cdots O3 | 0.84 | 1.84 | 2.577 (3) | 146 |
| O7—H7 \cdots N4 | 0.84 | 1.75 | 2.588 (3) | 175 |
| N2—H2A \cdots O5 ⁱ | 0.89 (3) | 2.29 (3) | 3.132 (3) | 158 (2) |
| O5—H5B \cdots O6 | 0.88 (3) | 1.86 (3) | 2.728 (2) | 168 (3) |
| N5—H5A \cdots O10 ⁱⁱ | 0.90 (4) | 2.34 (3) | 3.178 (3) | 156 (3) |
| O9—H9 \cdots O8 | 0.88 (5) | 1.75 (5) | 2.574 (3) | 154 (5) |
| O10—H10 \cdots O1 ⁱⁱⁱ | 0.95 (4) | 1.81 (4) | 2.754 (2) | 171 (3) |

Symmetry codes: (i) $-x+1, -y+1, -z+1$; (ii) $-x, -y, -z+1$ (iii) $x, y-1, z$.

Table 7 S2 Powder Patterns**Figure S1** Powder pattern of the measured and calculated patterns of the cocrystal **izact + 1nta**.

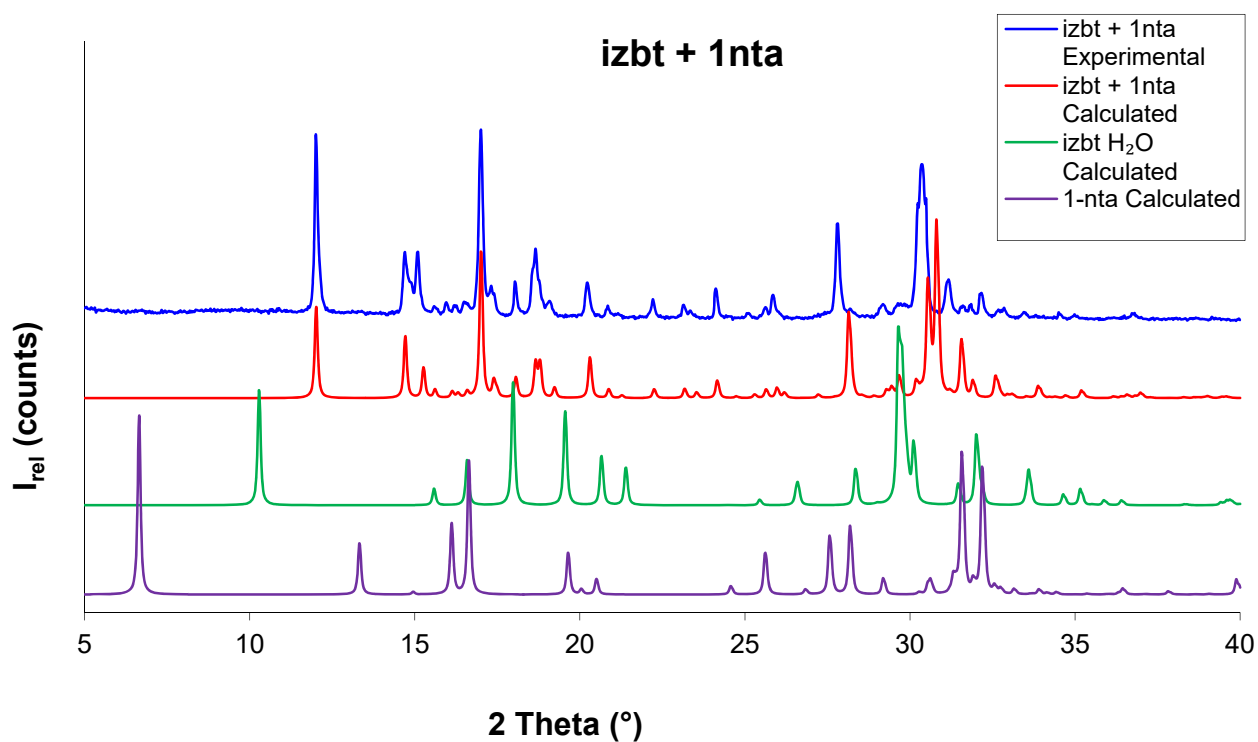


Figure S2 Powder pattern of the measured and₂ calculated patterns of the cocrystal **izbt + 1nta**.

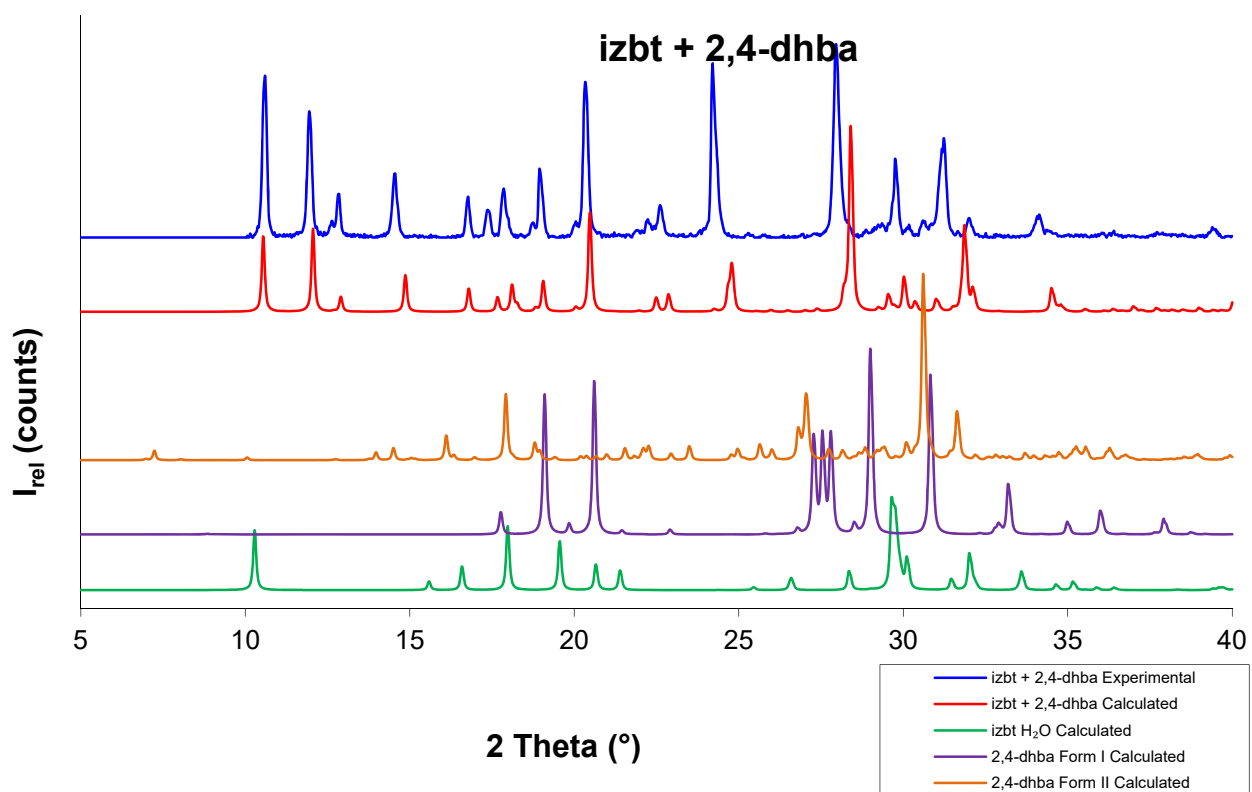


Figure S3 Powder pattern of the measured and calculated patterns of the cocrystal **izbt + 2,4-dhba**.

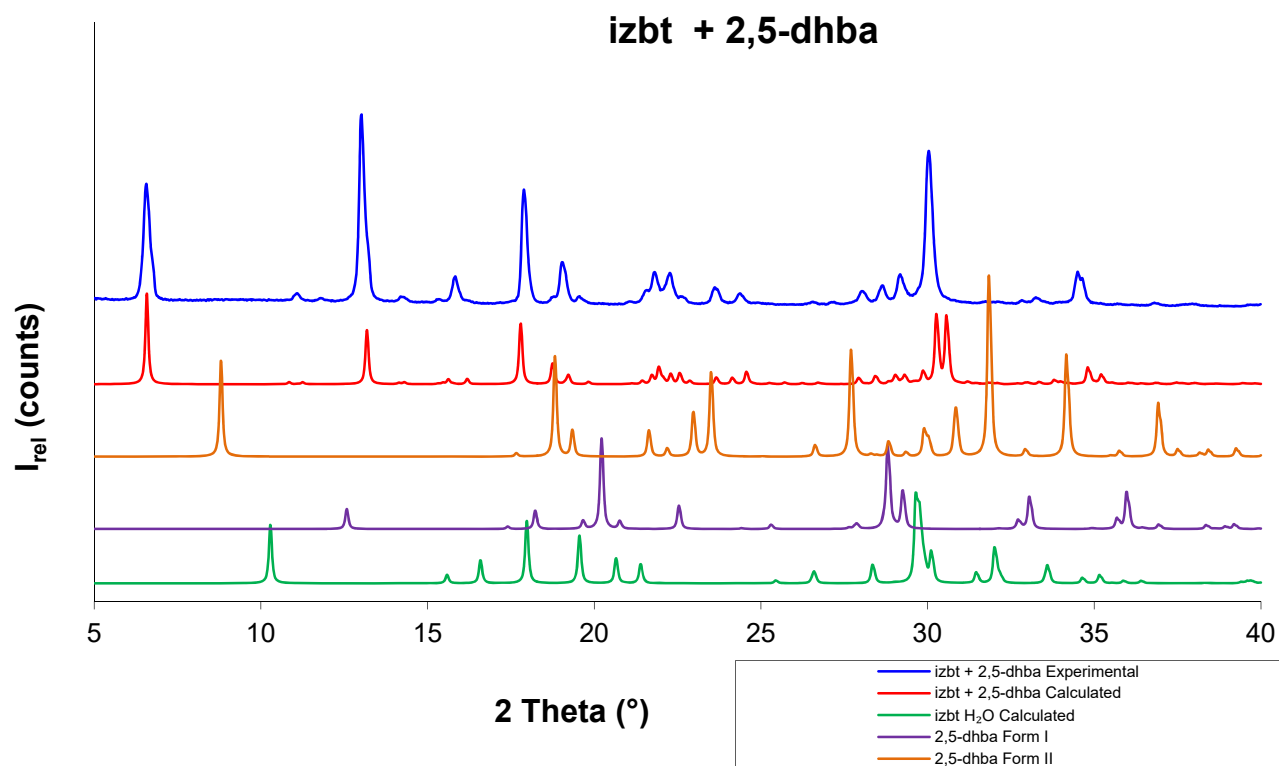


Figure S4 Powder pattern of the measured and calculated patterns of the cocrystal **izbt + 2,5-dhba**.

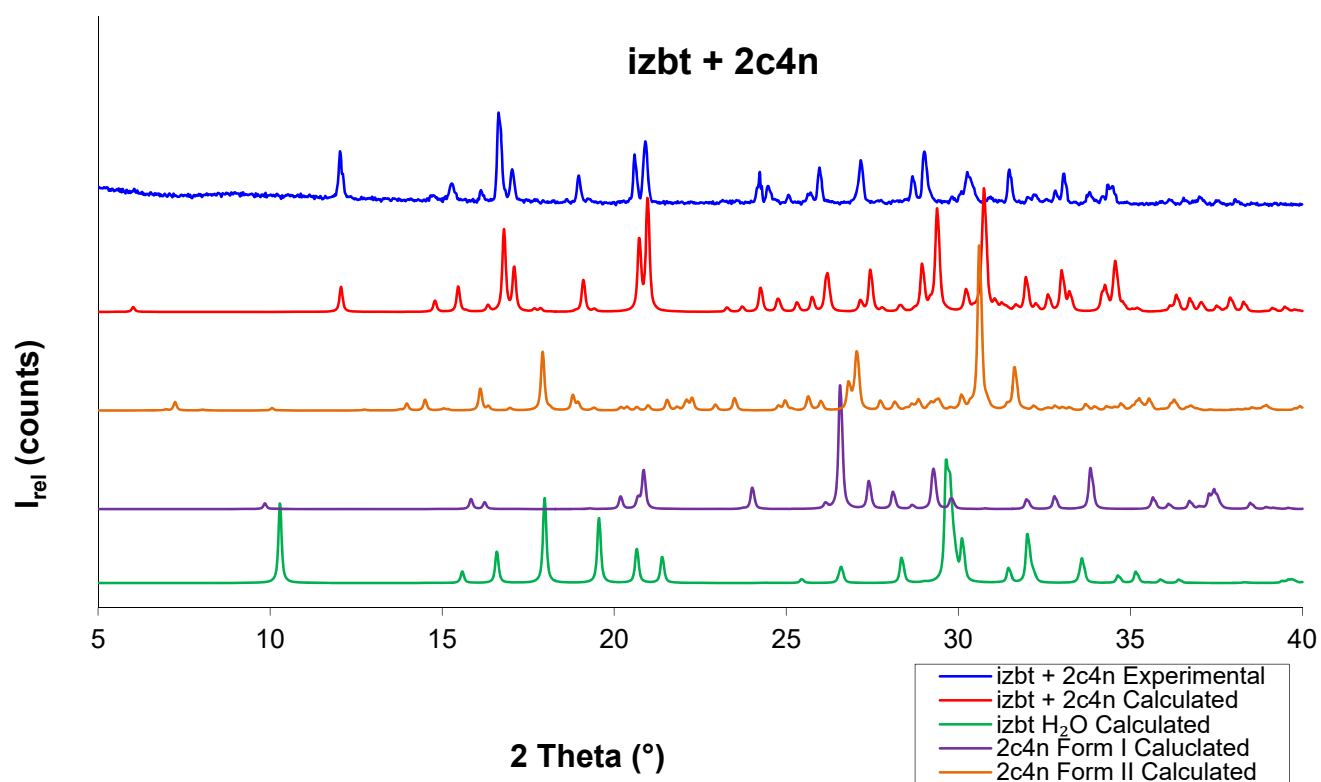
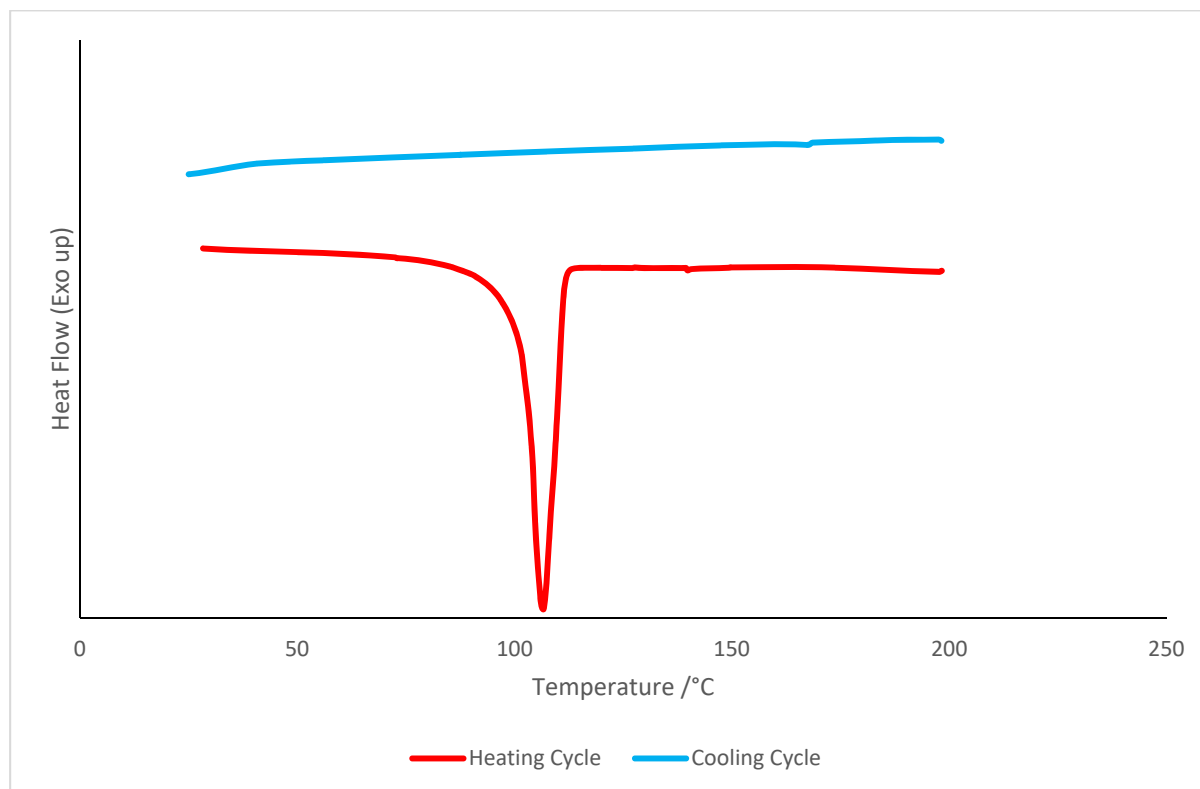


Figure S5 Powder pattern of the measured and calculated patterns of the cocrystal **izbt + 2c4n**.

S3 DSC curves**Figure S6** DSC curve of the cocrystal **izbt + 2c4n**.

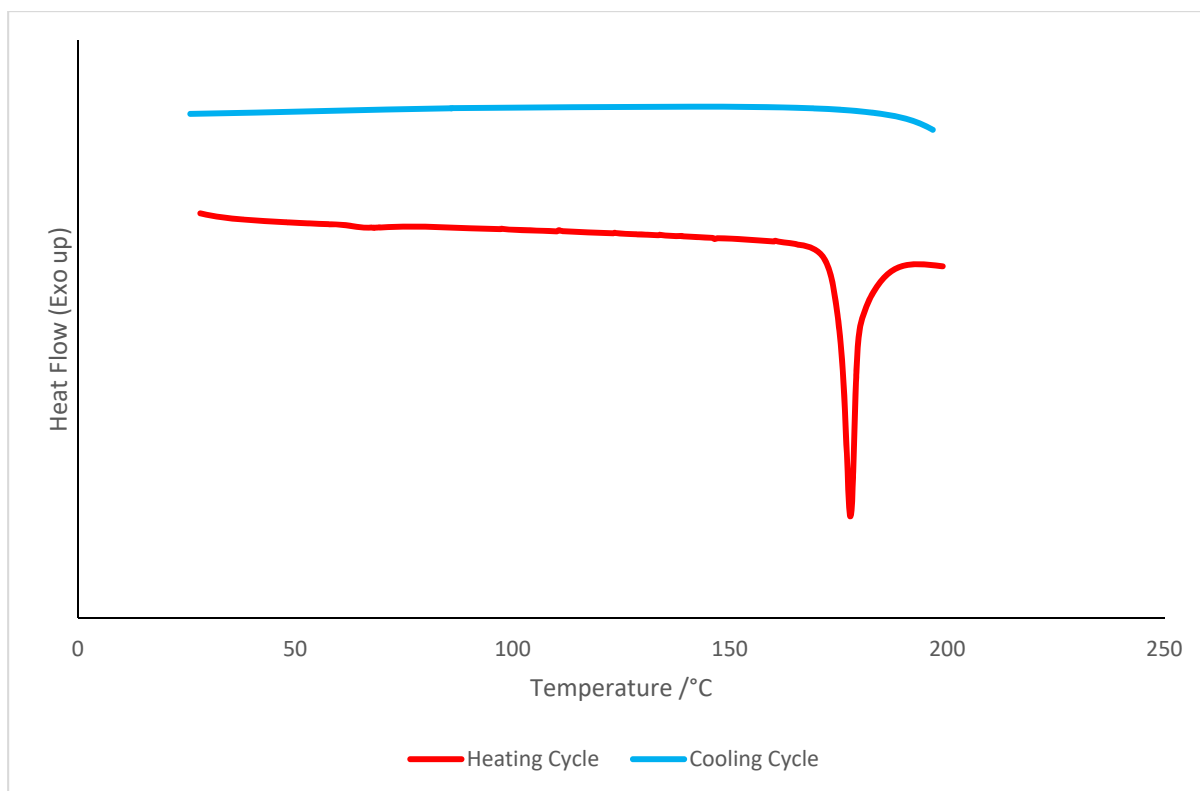


Figure S7 DSC curve of the cocrystal **izbt + 2,4-dhba**.

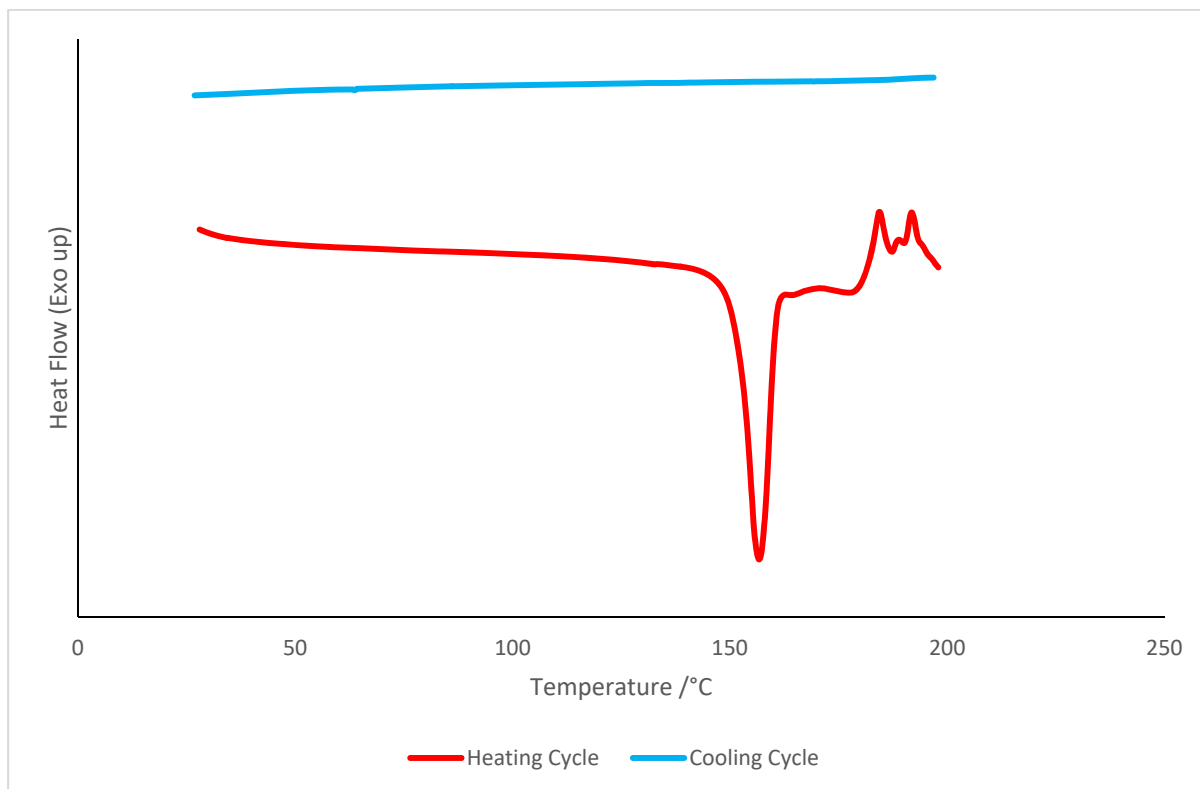


Figure S8 DSC curve of the cocrystal **izbt + 2,5-dhba**.

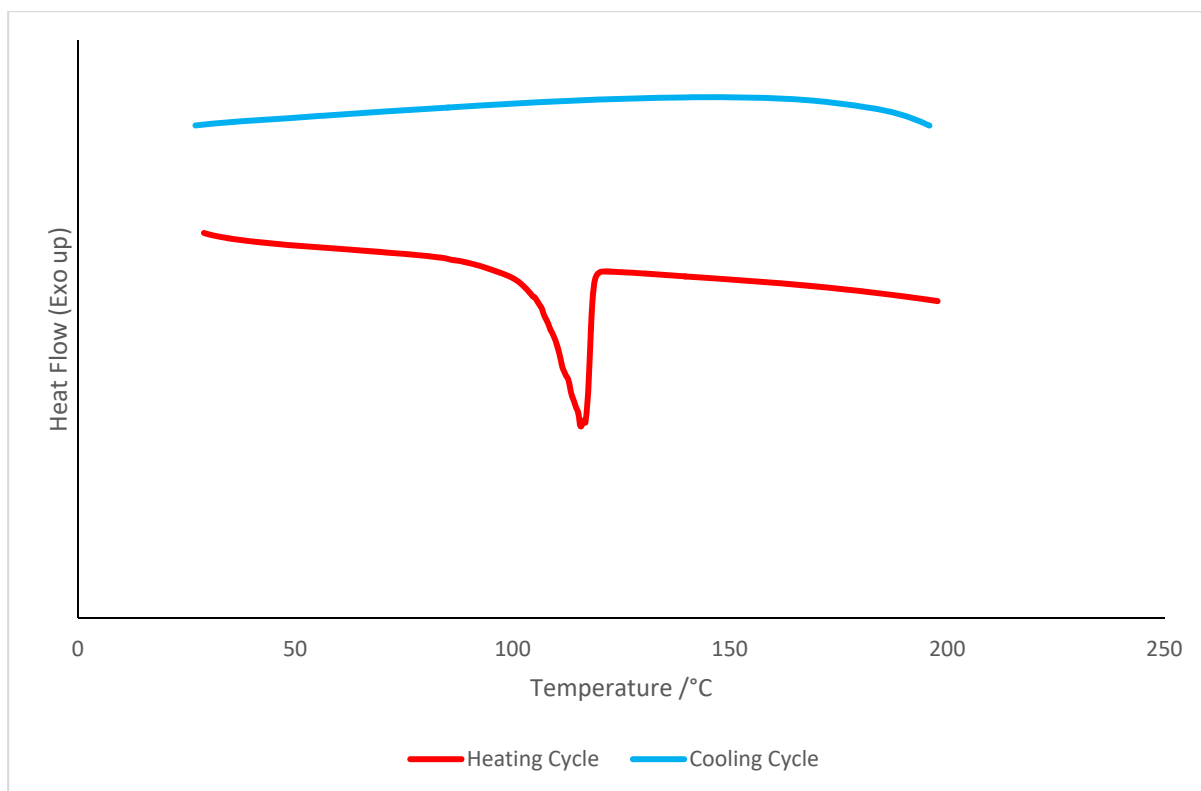


Figure S9 DSC curve of the cocrystal **izact + 1-nta**.