

**Thermodynamic Relationship and Phase Transition Study involving two  
Polymorphs of Sulfamethoxazole: Form I vs. Form II**

Carlos Henrique de Moura Oliveira<sup>1</sup>, Jennifer Tavares Jacon Freitas<sup>1,2</sup>, Iara Maria Landre Rosa<sup>1</sup>, Antônio Carlos Doriguetto<sup>1\*</sup>

<sup>1</sup>Laboratório de Cristalografia, Instituto de Química, Universidade Federal de Alfenas, Alfenas, Minas Gerais, 37130-001, Brazil

<sup>2</sup> Núcleo de Controle e Qualidade, Faculdade de Ciências Farmacêuticas, Alfenas, Minas Gerais, 37130-001, Brazil.

\*Author for correspondence: Dr. Antônio Carlos Doriguetto  
(e-mail:doriguetto@unifal-mg.edu.br)

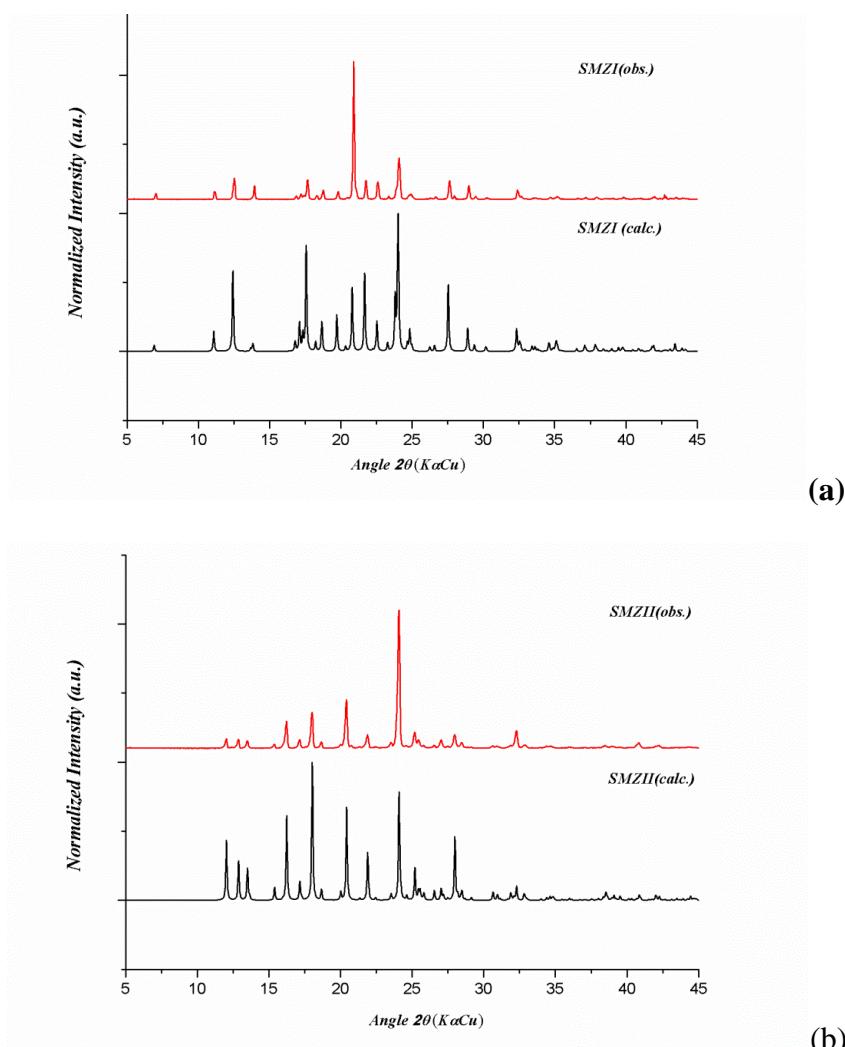


Figure S1. Direct comparison between PXRD profile calculated from single crystal data (CCDC code: SLFNMB01<sup>[12]</sup> for SMZI and SLFNMB02<sup>[12]</sup> for SMZII) and experimental for SMZI(a) and SMZII(b).

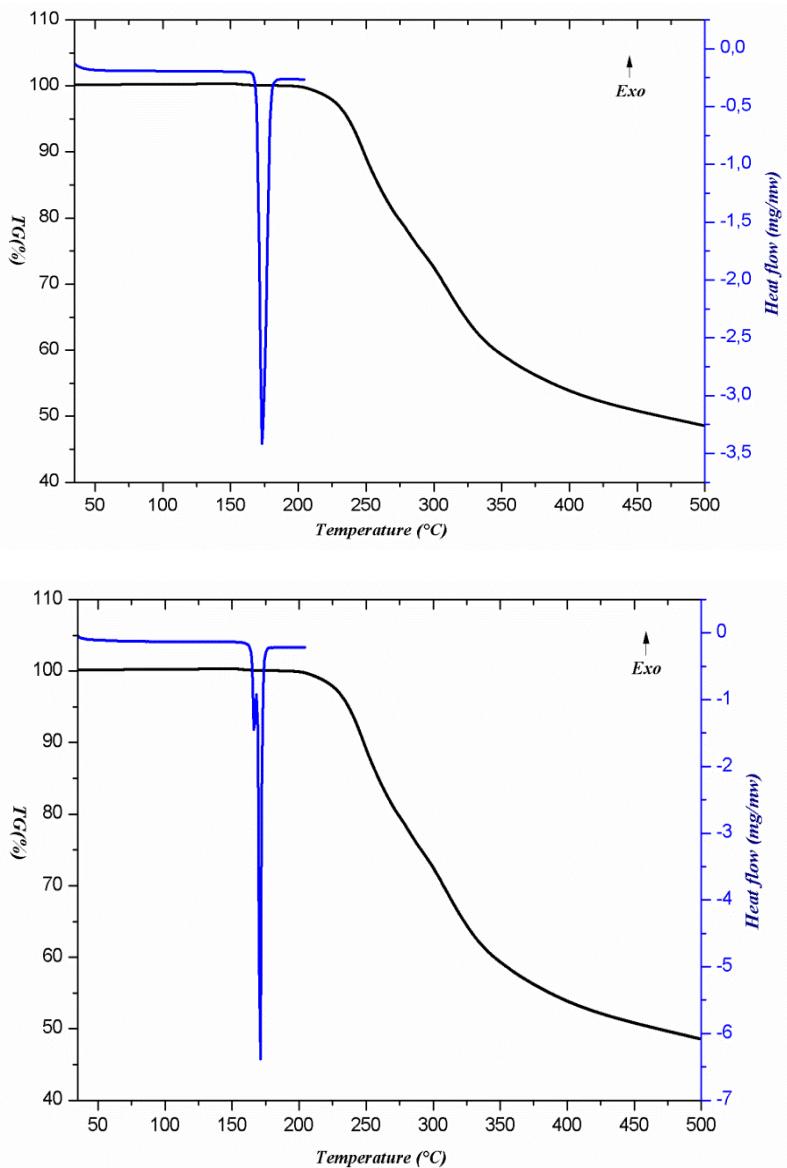


Figure S2. TG/DTA curves of solid forms (a) SMZI and (b) SMZII.

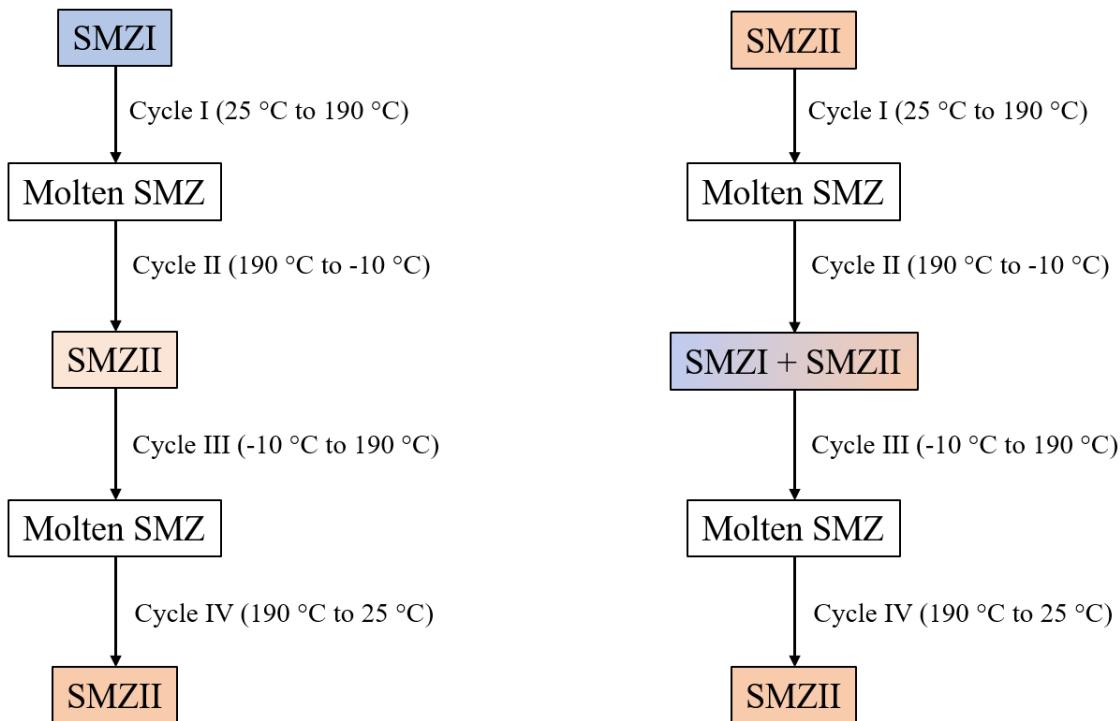


Figure S3. Scheme of heat-cool-heat protocol (B), evidencing the SMZII as final residual material.

Table S1. Hydrogen bond distances ( $\text{\AA}$ ) and angles ( $^{\circ}$ ), for SMZI. Data extracted from SLFNMB01 CIF file.

	d D···A	d D–H	$\angle$ D–H···A
N1–H1···O2	3.320	0.829	140.62
N1–H2···O2	3.286	0.855	151.68
N2–H3···O1	3.240	0.855	170.48
C8–H8···N3	3.239	0.882	154.91

D = donor; A = acceptor

Table S2. Hydrogen bond distances ( $\text{\AA}$ ) and angles ( $^\circ$ ), for SMZII. Data extracted from SLFNMB02 CIF file.

	d D…A	d D–H	$\angle$ D–H…A
N1–H1…O1	3.124	1.000	167.95
N1–H2…O2	2.997	0.902	166.87
N2–H3…N3	2.937	0.901	163.82

D = donor; A = acceptor