OPEN ACCESS
crystals
ISSN 2073-4352
www.mdpi.com/journal/crystals

Supplementary Information

Crystal Structures, Thermal Analysis and Dissolution Behavior of New Solid Forms of the Antiviral Drug Arbidol with Dicarboxylic Acids

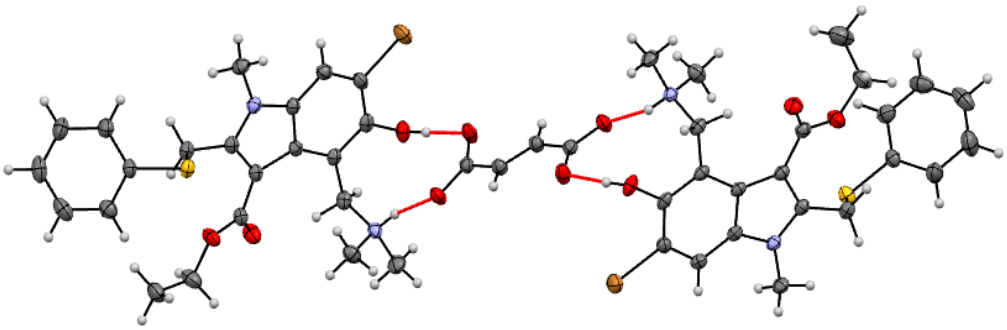
Alex N. Manin [1], Artem O. Surov [1,2], Andrei V. Churakov [3] and German L. Perlovich [1,2,*]

[1] Department of Physical Chemistry of Drugs, Institution of Russian Academy of Sciences, G.A. Krestov Institute of Solution Chemistry of the Russian Academy of Sciences, Ivanovo 153045, Russia; E-Mails: alexnmanin@gmail.com (A.N.M.); artsurov@yandex.ru (A.O.S.)

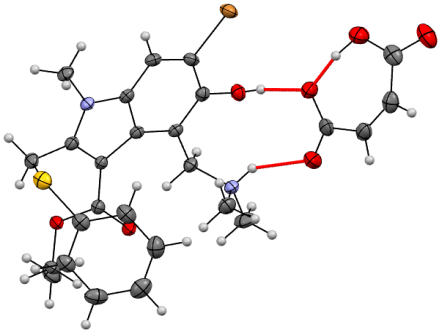
[2] Department of Chemistry, Lomonosov Moscow State University, 1-3 Leninskiye gory, Moscow 119991, Russia

[3] Department of Crystal Chemistry and X-ray Diffraction Analysis, Kurnakov Institute of General and Inorganic Chemistry of the Russian Academy of Sciences, Leninskii Prospekt 31, Moscow 119991, Russia; E-Mail: churakov@igis.ras.ru

* Author to whom correspondence should be addressed; E-Mail: germanper@yandex.ru; Tel.: +7-4932-533-784; Fax: +7-4932-336-237.

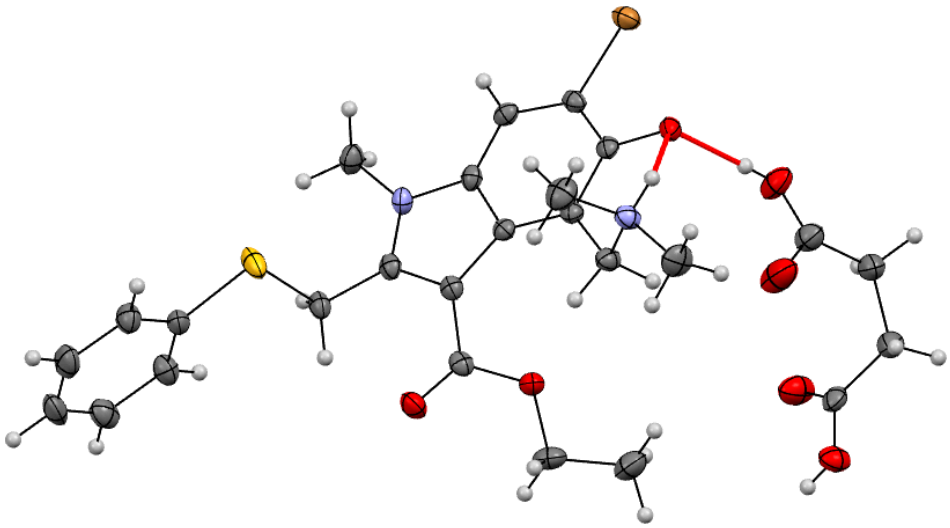


(a)



(b)

Figure S1. *Cont.*



c

Figure S1. Asymmetric units in (**a**) [**Arb** + **Fum**], (**b**) [**Arb** + **Mlc**], (**c**) [**Arb** + **Suc**]. Displacement ellipsoids are shown at 50% probability.

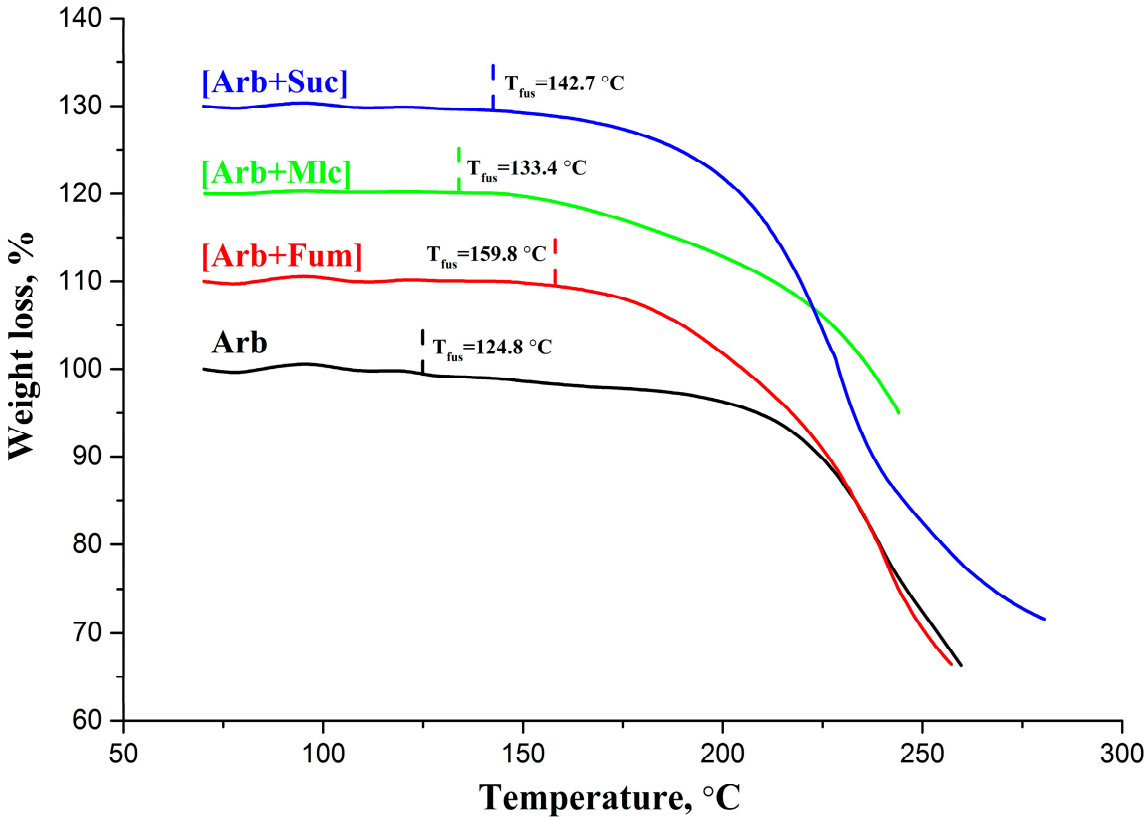
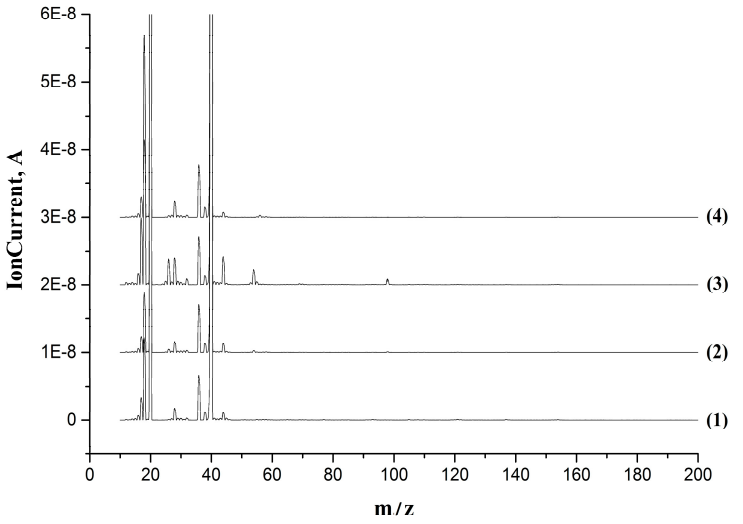
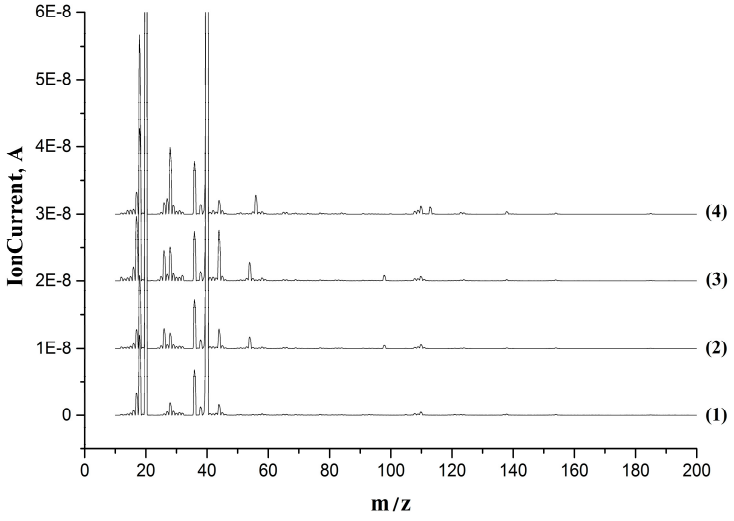


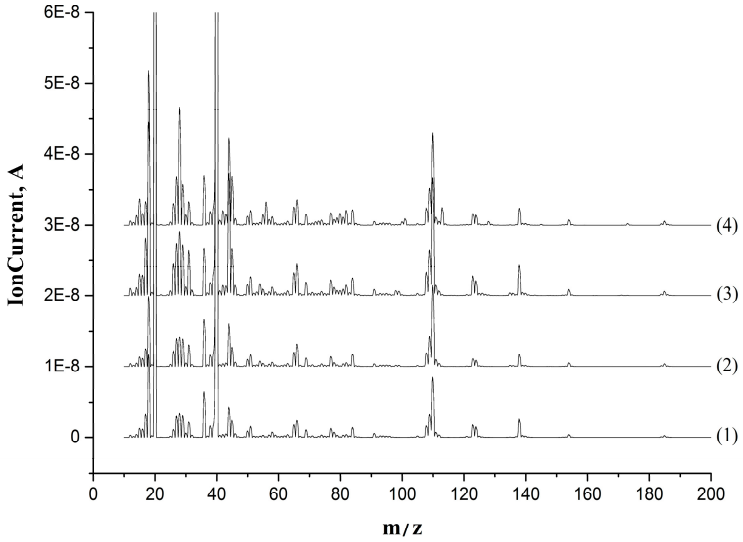
Figure S2. TG thermograms of **Arb** (black line); [**Arb** + **Fum**] (red line); [**Arb** + **Mlc**] (green line) and [**Arb** + **Suc**] (blue line)



(a)

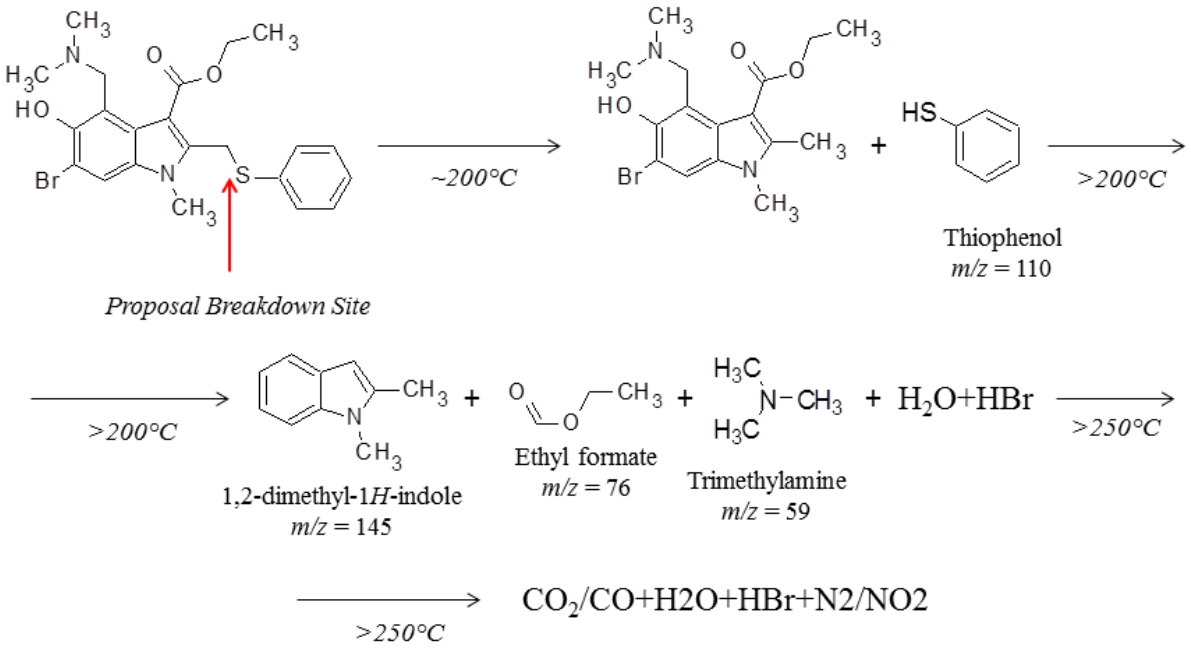


(b)



(c)

Figure S3. Mass spectrometric curves for **Arb** (**1**); [**Arb** + **Fum**] (**2**); [**Arb** + **Mlc**] (**3**); [**Arb** + **Suc**] (**4**) at different temperature: (**a**) at 175 °C; (**b**) at 205 °C; and (**c**) at 245 °C.



Scheme S1. Proposed thermal degradation of **Arb**.

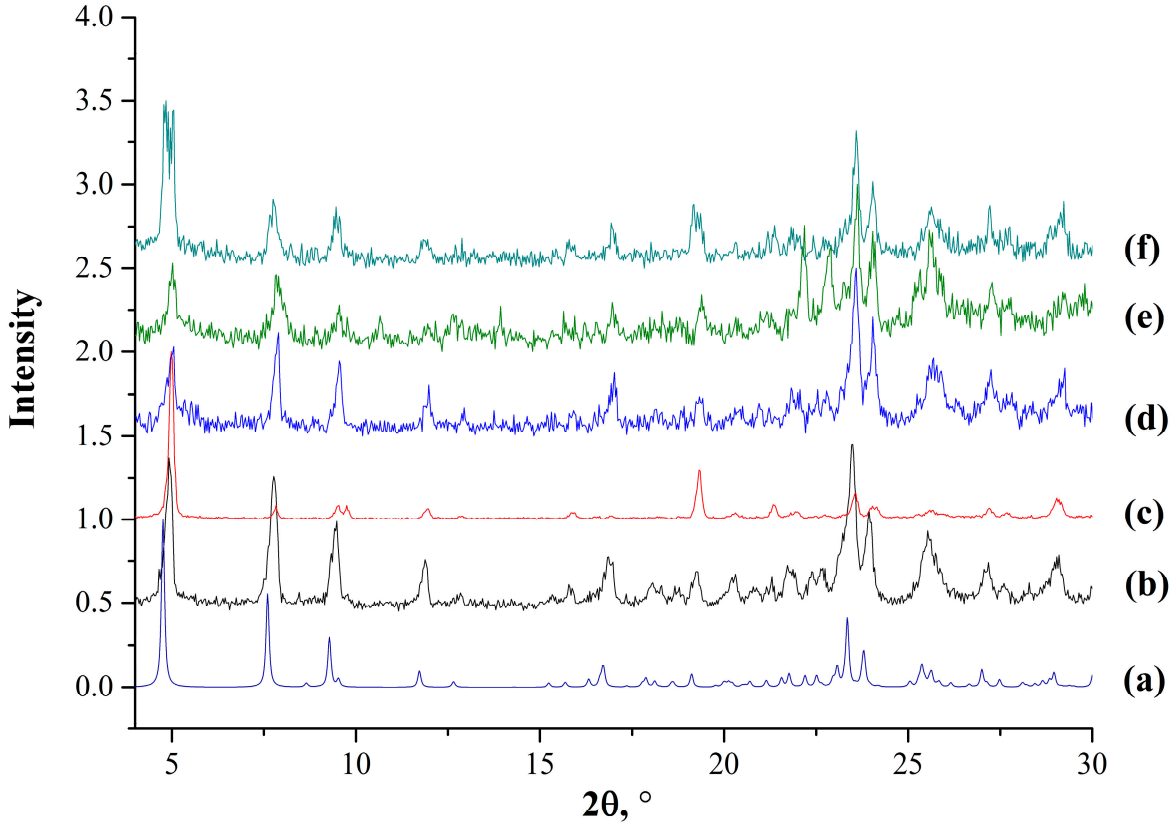


Figure S4. XRPD analysis of: (**a**) simulated pattern of **[Arb + HCl + H_2O]** based on the SAJPUQ crystal structure; the residual materials after solubility of (**b**) arbidol base, (**c**) **[Arb + HCl + H_2O]**, (**d**) **[Arb + Fum]**, (**e**) **[Arb + Mlc],** and (**f**) **[Arb + Suc]** in pH 1.2 solution.

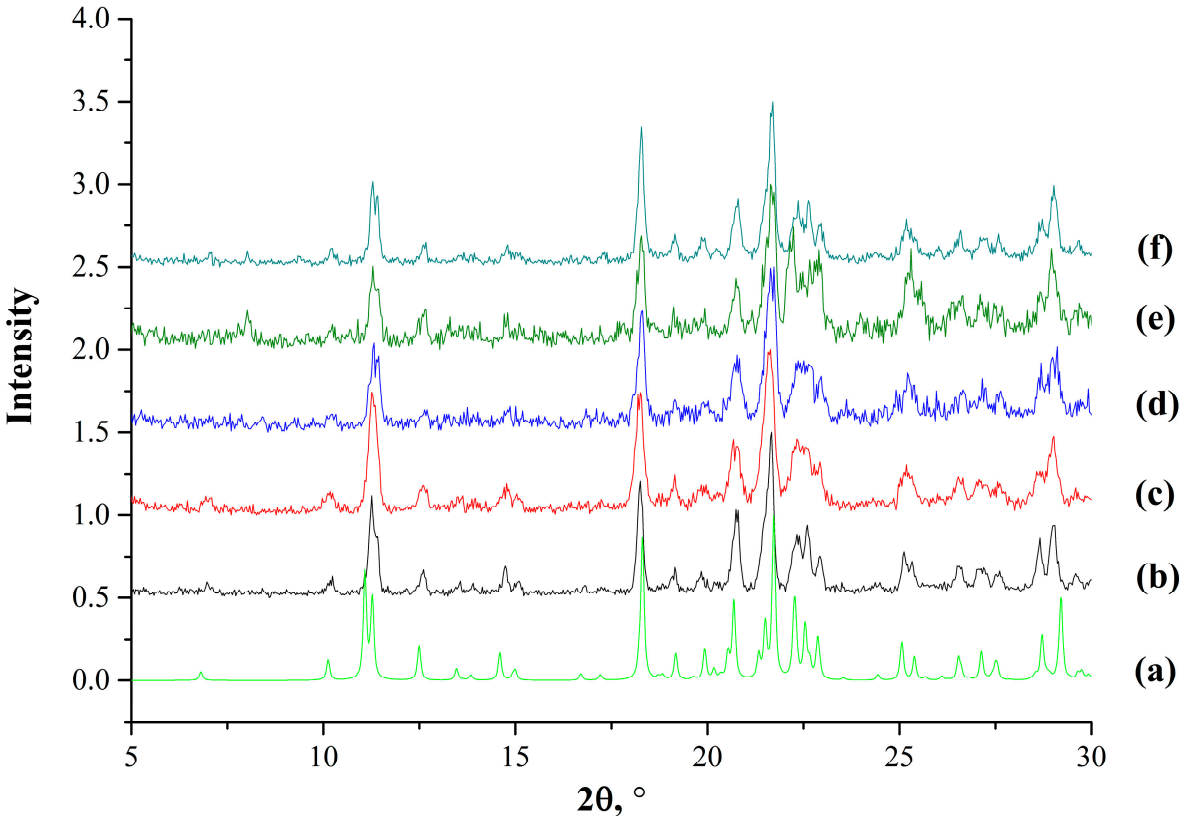


Figure S5. XRPD analysis of: (**a**) simulated pattern of arbidol base (ref. code SAJPOK) and the residual materials after solubility of (**b**) arbidol base, (**c**) [**Arb** + **HCl** + **H_2O**], (**d**) [**Arb** + **Fum**], (**e**) [**Arb** + **Mlc**], and (**f**) [**Arb** + **Suc**] in pH 6.8 solution.