

SUPPLEMENTARY MATERIAL

Multicomponent crystals of anti-Tuberculosis drugs: A mini-review

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Table S1 Co-crystal formers, CCDC ref codes, common synthons and physical properties addressed for multicomponent crystals of isoniazid.

Co-crystal former	CCDC ref code	Physical property addressed
4-cyanobenzoic acid	ACUDAG ^{1,a,b,d}	-
p-aminobenzoic acid	ACUDEK ^{1,a,c}	-
p-aminobenzoic acid	ACUDEK01 ^{1,a,c,f}	-
4-nitrobenzoic acid	ACUDIO ^{1,a,b,d}	-
Nicotinamide Succinic acid	BICQAH ^{2,a,f}	Solubility and dissolution rate
Nicotinamide Fumaric acid	BICQEL ^{2,a,f}	Solubility and dissolution rate
4-hydroxybenzoic acid	BICQUB ^{2,a,b}	Solubility and dissolution rate
4-hydroxybenzoic acid	BICQUB01 ^{2,a,f}	Solubility and dissolution rate
2,2'-dithiodibenzoic acid	BIZMAZ ^{3,a,c,e}	-
18-crown-6	BIZMUU ⁴	-
2,3-dihydroxybenzoic acid	BOMBOW ^{5,a,b}	-
3,5-dihydroxybenzoic acid	BOMBUC ^{5,f}	-
3-hydroxybenzoic acid	BOMCAJ ^{5,a}	-
DL Tartaric acid	BOPHOG ⁶	-
4-hydroxy-3,5-dimethoxybenzoic acid	COSKUT ^{7,e}	Solubility and dissolution rate.
6-chloro-3,4-dihydro-2H-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide	DADLUS ^{8,e}	Solubility and dissolution rate
3-,4-hydroxybenzoic acid	EJOYEJ ^{9,a,b}	Solubility and stability
Malonic acid	FADGEY ^{10,a}	-
Succinic acid	FADGIC ^{10,a,b,d}	-
Succinic acid	FADGIC01 ^{11,c,d,e}	-
Succinic acid	FADGIC02 ^{12,a,d}	Solubility, stability and dissolution rate
Succinic acid	FADGIC03 ^{7,a,b,d}	-
Glutaric acid	FADGOI ^{10,a,c}	-
Adipic acid	FADGUO ^{10,a,b,f}	-
Adipic acid	FADGUO01 ^{13,a}	-
Adipic acid	FADGUO02 ^{7,a,b,f}	Solubility
Pimelic acid	FADHAV ^{10,a,c}	-
4-hydroxybenzoic acid	FADHEZ ^{10,a,c}	-
4-hydroxybenzoic acid	FADHEZ01 ¹⁰	-
2,4-hydroxybenzoic acid	FADHID ^{10,a,c,f}	-
Ferulic acid	FOSFIE ^{14,d}	Stability
Resorcinol	FOSFOK ^{14,c}	Stability
Vanillic acid	FOSFUQ ^{14,d}	Stability

Vanillic acid	FOSFUQ01 ^{14,a,c}	Stability
Caffeic acid	FOSMIL ^{14,a}	Stability
Caffeic acid	FOSMIL01 ^{14,a,b}	Stability
4-t-butylbenzoic acid	GIYLUY ^{15,a,d}	-
Salicylic acid	LATKUO ^{11,a,f}	-
2-chloro-4-nitrobenzoic acid	LATLEZ ^{11,a,d,e}	-
Fumaric acid	LATSUW ¹²	Solubility and dissolution rate
Fumaric acid	LATTAD ^{12,a}	Solubility and dissolution rate
Fumaric acid	LATTAD01 ^{2,a,b}	Stability, solubility and dissolution rate
Fumaric acid	LATTAD02 ^{2,a}	Stability, solubility and dissolution rate
3,4,5-trihydroxybenzoic acid	LODHIX ¹⁶	-
3,4,5-trihydroxybenzoic acid	LODHIX01 ¹⁶	-
3,4,5-trihydroxybenzoic acid	LODHOD ^{16,a,b}	-
3,4,5-trihydroxybenzoic acid	LODHOD01 ^{16,a}	-
3,4,5-trihydroxybenzoic acid	LODHOD02 ^{5,a,b}	-
3,4,5-trihydroxybenzoic acid	LODHOD03 ^{17,a,b}	-
2,6-dihydroxybenzoic acid	NAKZEH ¹⁸	-
2,6-dihydroxybenzoic acid	NAKZEH01 ¹⁷	-
Phthalic acid	NAKZOR ^{18,d}	-
Terephthalic acid	ORAWIO ^{19,a,b,f}	-
3-(4-hydroxyphenyl)acrylic acid	PEHFUF ²⁰	-
2,4,6-trinitrophenol	PEZVAU*	
5-fluorocytosine	PINJIJ ^{21,f}	Stability and solubility
Oxalic acid	QICJIY ²²	Solubility
Oxalic acid	QICJIY01*	-
Maleic acid	QICJOE ²²	Solubility
Methane sulfonic acid	QICJUK ²²	Solubility
Benzoic acid	SETRIU ^{23,a,b,f}	Stability and solubility
Sebacic acid	SETROA ^{23,a,b,d}	Stability and solubility
Suberic acid	SETRUG ^{23,a,b,d}	Stability and solubility
Cinnamic acid	SETSAN ^{23,a,b}	Stability and solubility
Cinnamic acid	SESTAN01 ^{23,a,b}	Stability and solubility
Cinnamic acid	SESTAN02 ^{23,a,b,f}	Stability and solubility
5,7-dihydroxy-2-(4-hydroxyphenyl)-2,3dihydro-4H-1-benzopyran-4-one	UDUJIP*.c	
4-aminosalicylic acid	URUDER ^{24,a,f}	-
4-aminosalicylic acid	URUDER01 ^{24,a,f}	-
4-aminosalicylic acid	URUDER02 ^{24,a,f}	-
4-aminosalicylic acid	URUDER03 ^{24,a,f}	-
4-aminosalicylic acid	URUDER04 ^{24,a,f}	-
4-aminosalicylic acid	URUDER05 ^{24,a,b,f}	-
4-aminosalicylic acid	URUDER06 ^{24,a,f}	-
4-aminosalicylic acid	URUDER07 ^{24,a,b,f}	-
4-aminosalicylic acid	URUDER08 ^{24,a,b,f}	-
4-aminosalicylic acid	URUDER09 ^{24,a,b,f}	-
4-aminosalicylic acid	URUDER10 ^{24,a,b,f}	-
But-2-ynoic acid	VAXROD ²⁵	-
But-2-ynoic acid	VAXRUJ ²⁵	-
Benzene-1,2,4,5-tetracarboxylic acid	VEGHOH ²⁶	-
Naphthalene-1,5-disulfonic acid	VEGHUN ²⁶	-
Resveratrol	VOPQEZ ²⁷	Solubility
Tartaric acid	WETZAZ*	-
Tartaric acid	WETZAZ01*	-
D-tartaric acid	WETZAZ02 ⁶	-
D-tartaric acid	WETZAZ03 ⁶	-
Benzene 1,3,5 triol	WIWNAU ^{17,e}	-
Fumaric acid	YEVBAF ^{28,a}	Solubility, dissolution and membrane permeability
Pyrazinamide		
3-carboxy-4-hydroxybenzenesulfonic acid	YIFXOB ²⁹	-
3,4-dihydroxycinnamic acid	FOSMIL02 ^{30,a}	
3,4-dihydroxycinnamic acid	FOSMIL03 ^{30,a}	
4-hydroxycinnamic acid	PEHFUF01 ³⁰	
2-hydroxycinnamic acid	PUMFOV ^{30,a,b}	
2,4-dihydroxycinnamic acid	PUMGAI ³⁰	

3-hydroxycinnamic acid	PUMGOW ³⁰	
cinnamic acid	SETSAN03 ^{30,a,b}	

a = synthon type I, b = synthon type II, c = synthon type III, d = synthon type IV, e = synthon type V, F = synthon type VI.

Table S2 Co-crystal co-formers, CCDC ref codes, common synthons and physical properties addressed for multicomponent crystals of pyrazinamide.

Co-crystal former	CCDC ref code	Physical property addressed
3,5-dihydroxybenzoic acid	ACOPOA ^{31,j}	Solubility
3-(4-hydroxy-3-methoxyphenyl)prop-2-enoic acid	ACOPUG ^{31,i,j}	Solubility
p-toluene sulfonic acid	ACOQAN ^{31,}	Solubility
4-nitrobenzamide	ASAYIC ^{32,i}	-
2-Aminobenzoic acid	EBONUG ^{33,i,j,k}	-
6-chloro-3,4-dihydro-2H-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide	EGENIP ^{34,k}	Solubility and dissolution
Hydrochlorothiazide	EGENIP01 ^{8,k}	Solubility and dissolution rate
Hydrochlorothiazide	EGENIP02 ^{35,k}	Solubility
benzene-1,2,3-triol	HEDRAL ³⁶	Solubility and dissolution rate
Temozolomide	KIJSER ^{37,}	-
Hexanedioic acid	KOVSAK ^{38,g,h,j}	Solubility and dissolution rate
Decanedioic acid	KOVSEV ^{38,g,h,i}	Solubility and dissolution rate.
prop-1-ene-1,2,3-tricarboxylic acid	KOVSIK ³⁸	Solubility and dissolution rate
2-hydroxypropane-1,2,3-tricarboxylate	KOVSOE ^{38,g}	Solubility and dissolution rate
fumaric acid	LATTIL ^{12,g,h,i}	Solubility and dissolution rate
succinic acid	LATTOR ^{12,g,h,i}	Solubility and dissolution rate
succinic acid	LATTOR01 ^{39,g,h,i}	Solubility and dissolution rate
4-nitrobenzoic acid	MUDVUE ^{40,g,i,j}	Solubility
2,4-dihydroxybenzoic acid	NEFFEM ^{41,j}	-
2,4-dihydroxybenzoic acid	NEFFEM01 ^{31,j}	Solubility
2,6-dihydroxybenzoic acid	NEFGEN ⁴¹	-
2,6-dihydroxybenzoic acid	NEFGEN01 ^{31,g}	Solubility
2,3-dihydroxybenzoic acid	NEFGIR ⁴¹	-
β -Cyclodextrin	NUFVEQ ⁴²	-
3,4-dihydroxybenzoic acid	NUSMIZ ⁴³	-
4-hydroxybenzoic acid	NUVFIV ^{43,i}	-
4-hydroxybenzoic acid	NUVFIV01 ^{44,i}	-
3-hydroxybenzoic acid	NUVFOB ⁴³	-
3,4-dihydroxycyclobut-3-ene-1,2-dione	PAQNOM ^{45,g,h}	-
theophylline	RACFIN ^{46,i}	-
theophylline	RACFIN01 ^{46,i,g}	-
4-Hydroxy-3-methoxybenzoic acid	REBXED ^{47,i,j}	Solubility
3,4,5-Trihydroxybenzoic acid	REBXIH ^{47,i}	Solubility
1-Hydroxy-2-naphthoic acid	REBXON ^{47,g,h,i}	Solubility
1H-Indole-2-carboxylic acid	REBXUT ⁴⁷	Solubility
Hydrochloric acid	SAGBEJ ⁴⁸	-
glutaric acid	SIHQOR ^{39,g,h}	Solubility and dissolution rate
malonic acid	SIHRAE ^{39,g}	Solubility and dissolution rate
malonic acid	SIHRAE01 ^{49,k}	-
Sinapic acid	TIHSAH ^{44,i}	-
4-aminosalicylic acid	URUGIY ^{24,g,h,i}	-
oxalic acid	UZODUK ^{50,g,h,i}	-
2-(3,4-dihydroxyphenyl)-3,5,7-trihydroxy-4H-1-benzopyran-4-one	VIHJII ^{51,i}	Solubility and dissolution
Glutaric acid	VOLROG ^{52,g,h,i}	-
4-aminobenzoic acid	VUTNAB ^{53,k}	-
1,4-dibromo-2,3,5,6-tetrafluorobenzene	WEDXOV ^{54,i}	-
1,2,4,5-tetrafluoro-3,6-diiodobenzene	WEDXUB ^{54,i}	-
2,5-dihydroxybenzoic acid	XAQQOW ⁵⁵	-
(E)-2-cyano-3-(3,4-dihydroxy-5-nitrophenyl)-N,N-diethylprop-2-enamide	XIPPAQ ⁵⁶	Solubility, dissolution rate and stability

4-carbohydrazide bis(but-2-enedioic acid)	YEVBAF ^{28,g,h}	Solubility, dissolution and membrane permeability
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g = synthon type VII, h = synthon type VIII, i = synthon type IX, j = synthon type X, k = synthon type XI

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