

Sample: _____ Sample Concentration: _____
 Sample Buffer: _____ Date: _____
 Reservoir Volume: _____ Temperature: _____
 Drop Volume: Total _____ µl Sample _____ µl Reservoir _____ µl Additive _____ µl

- 1 Clear Drop
- 2 Phase Separation
- 3 Regular Granular Precipitate
- 4 Birefringent Precipitate or Microcrystals

- 5 Posettes or Spherulites
- 6 Needles (1D Growth)
- 7 Plates (2D Growth)
- 8 Single Crystals (3D Growth < 0.2 mm)
- 9 Single Crystals (3D Growth > 0.2 mm)

Matrx HT™ - HR2-131 Scoring Sheet

Date: _____ Date: _____

1. (A1)	0.01 M Magnesium chloride hexahydrate, 0.05 M MES monohydrate pH 5.6, 1.8 M Lithium sulfate monohydrate		
2. (A2)	0.01 M Magnesium acetate tetrahydrate, 0.05 M MES monohydrate pH 5.6, 2.5 M Ammonium sulfate		
3. (A3)	0.1 M Magnesium acetate tetrahydrate, 0.05 M MES monohydrate pH 5.6, 20% v/v (+/-)-2-Methyl-2,4-pentanediol		
4. (A4)	0.2 M Potassium chloride, 0.01 M Magnesium sulfate heptahydrate, 0.05 M MES monohydrate pH 5.6, 10% v/v Polyethylene glycol 400		
5. (A5)	0.2 M Potassium chloride, 0.01 M Magnesium chloride hexahydrate, 0.05 M MES monohydrate pH 5.6, 5% w/v Polyethylene glycol 8,000		
6. (A6)	0.1 M Ammonium sulfate, 0.01 M Magnesium chloride hexahydrate, 0.05 M MES monohydrate pH 5.6, 20% w/v Polyethylene glycol 8,000		
7. (A7)	0.02 M Magnesium chloride hexahydrate, 0.05 M MES monohydrate pH 6.0, 15% v/v 2-Propanol		
8. (A8)	0.1 M Ammonium acetate, 0.005 M Magnesium sulfate heptahydrate, 0.05 M MES monohydrate pH 6.0, 0.6 M Sodium chloride		
9. (A9)	0.1 M Potassium chloride, 0.01 M Magnesium chloride hexahydrate, 0.05 M MES monohydrate pH 6.0, 10% v/v Polyethylene glycol 400		
10. (A10)	0.005 M Magnesium sulfate heptahydrate, 0.05 M MES monohydrate pH 6.0, 5% w/v Polyethylene glycol 4,000		
11. (A11)	0.01 M Magnesium chloride hexahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 1.0 M Lithium sulfate monohydrate		
12. (A12)	0.01 M Magnesium sulfate heptahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 1.8 M Lithium sulfate monohydrate		
13. (B1)	0.015 M Magnesium acetate tetrahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 1.7 M Ammonium sulfate		
14. (B2)	0.1 M Potassium chloride, 0.025 M Magnesium chloride hexahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 15% v/v 2-Propanol		
15. (B3)	0.04 M Magnesium chloride hexahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 5% v/v (+/-)-2-Methyl-2,4-pentanediol		
16. (B4)	0.04 M Magnesium acetate tetrahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 30% v/v (+/-)-2-Methyl-2,4-pentanediol		
17. (B5)	0.2 M Potassium chloride, 0.01 M Calcium chloride dihydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 10% w/v Polyethylene glycol 4,000		
18. (B6)	0.01 M Magnesium acetate tetrahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 1.3 M Lithium sulfate monohydrate		
19. (B7)	0.01 M Magnesium sulfate heptahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 2.0 M Ammonium sulfate		
20. (B8)	0.1 M Ammonium acetate, 0.015 M Magnesium acetate tetrahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 10% v/v 2-Propanol		
21. (B9)	0.2 M Potassium chloride, 0.005 M Magnesium chloride hexahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 0.9 M 1,6-Hexanediol		
22. (B10)	0.08 M Magnesium acetate tetrahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 15% v/v Polyethylene glycol 400		
23. (B11)	0.2 M Potassium chloride, 0.01 M Magnesium chloride hexahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 10% w/v Polyethylene glycol 4,000		
24. (B12)	0.2 M Ammonium acetate, 0.01 M Calcium chloride dihydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 10% w/v Polyethylene glycol 4,000		
25. (C1)	0.08 M Magnesium acetate tetrahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 30% w/v Polyethylene glycol 4,000		
26. (C2)	0.2 M Potassium chloride, 0.1 M Magnesium acetate tetrahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 10% w/v Polyethylene glycol 8,000		
27. (C3)	0.2 M Ammonium acetate, 0.01 M Magnesium acetate tetrahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 30% w/v Polyethylene glycol 8,000		
28. (C4)	0.05 M Magnesium sulfate hydrate, 0.05 M HEPES sodium pH 7.0, 1.6 M Lithium sulfate monohydrate		
29. (C5)	0.01 M Magnesium chloride hexahydrate, 0.05 M HEPES sodium pH 7.0, 4.0 M Lithium chloride		
30. (C6)	0.01 M Magnesium chloride hexahydrate, 0.05 M HEPES sodium pH 7.0, 1.6 M Ammonium sulfate		
31. (C7)	0.005 M Magnesium chloride hexahydrate, 0.05 M HEPES sodium pH 7.0, 25% v/v Polyethylene glycol monomethyl ether 550		
32. (C8)	0.2 M Potassium chloride, 0.01 M Magnesium chloride hexahydrate, 0.05 M HEPES sodium pH 7.0, 1.7 M 1,6-Hexanediol		
33. (C9)	0.2 M Ammonium chloride, 0.01 M Magnesium chloride hexahydrate, 0.05 M HEPES sodium pH 7.0, 2.5 M 1,6-Hexanediol		
34. (C10)	0.1 M Potassium chloride, 0.005 M Magnesium sulfate hydrate, 0.05 M HEPES sodium pH 7.0, 15% v/v (+/-)-2-Methyl-2,4-pentanediol		
35. (C11)	0.1 M Potassium chloride, 0.01 M Magnesium chloride hexahydrate, 0.05 M HEPES sodium pH 7.0, 5% v/v Polyethylene glycol 400		
36. (C12)	0.1 M Potassium chloride, 0.01 M Calcium chloride dihydrate, 0.05 M HEPES sodium pH 7.0, 10% v/v Polyethylene glycol 400		
37. (D1)	0.2 M Potassium chloride, 0.025 M Magnesium sulfate hydrate, 0.05 M HEPES sodium pH 7.0, 20% v/v Polyethylene glycol 200		
38. (D2)	0.2 M Ammonium acetate, 0.15 M Magnesium acetate tetrahydrate, 0.05 M HEPES sodium pH 7.0, 5% w/v Polyethylene glycol 4,000		
39. (D3)	0.1 M Ammonium acetate, 0.02 M Magnesium chloride hexahydrate, 0.05 M HEPES sodium pH 7.0, 5% w/v Polyethylene glycol 8,000		
40. (D4)	0.01 M Magnesium chloride hexahydrate, 0.05 M TRIS hydrochloride pH 7.5, 1.6 M Ammonium sulfate		
41. (D5)	0.1 M Potassium chloride, 0.015 M Magnesium chloride hexahydrate, 0.05 M TRIS hydrochloride pH 7.5, 10% v/v Polyethylene glycol monomethyl ether 550		
42. (D6)	0.01 M Magnesium chloride hexahydrate, 0.05 M TRIS hydrochloride pH 7.5, 5% v/v 2-Propanol		
43. (D7)	0.05 M Ammonium acetate, 0.01 M Magnesium chloride hexahydrate, 0.05 M TRIS hydrochloride pH 7.5, 10% v/v (+/-)-2-Methyl-2,4-pentanediol		
44. (D8)	0.2 M Potassium chloride, 0.05 M Magnesium chloride hexahydrate, 0.05 M TRIS hydrochloride pH 7.5, 10% w/v Polyethylene glycol 4,000		
45. (D9)	0.025 M Magnesium sulfate hydrate, 0.05 M TRIS hydrochloride pH 8.5, 1.8 M Ammonium sulfate		
46. (D10)	0.005 M Magnesium sulfate hydrate, 0.05 M TRIS hydrochloride pH 8.5, 2.9 M 1,6-Hexanediol		
47. (D11)	0.1 M Potassium chloride, 0.01 M Magnesium chloride hexahydrate, 0.05 M TRIS hydrochloride pH 8.5, 30% v/v Polyethylene glycol 400		
48. (D12)	0.2 M Ammonium chloride, 0.01 M Calcium chloride dihydrate, 0.05 M TRIS hydrochloride pH 8.5, 30% w/v Polyethylene glycol 4,000		

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 Drop Volume: Total _____ μ l Sample _____ μ l Reservoir _____ μ l Additive _____ μ l

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- 3 Regular Granular Precipitate
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Date: _____ Date: _____

49. (E1)	0.04 M Lithium chloride, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 5.5, 30% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.002 M Hexamine cobalt(III) chloride		
50. (E2)	0.08 M Sodium chloride, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 5.5, 35% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.002 M Hexamine cobalt(III) chloride		
51. (E3)	0.012 M Sodium chloride, 0.08 M Potassium chloride, 0.04 M Sodium cacodylate trihydrate pH 5.5, 45% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.002 M Hexamine cobalt(III) chloride		
52. (E4)	0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 5.5, 40% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.002 M Hexamine cobalt(III) chloride		
53. (E5)	0.002 M Calcium chloride dihydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 1.8 M Ammonium sulfate, 0.0005 M Spermine		
54. (E6)	0.05 M Sodium cacodylate trihydrate pH 6.0, 35% v/v Tacsimate™ pH 6.0, 0.001 M Spermine		
55. (E7)	0.1 M Sodium chloride, 0.05 M Sodium cacodylate trihydrate pH 6.0, 10% w/v Polyethylene glycol 4,000, 0.0005 M Spermine		
56. (E8)	0.05 M Potassium chloride, 0.05 M Sodium cacodylate trihydrate pH 6.0, 10% w/v Polyethylene glycol 8,000, 0.0005 M Spermine, 0.0005 M L-Argininamide dihydrochloride		
57. (E9)	0.1 M Potassium chloride, 0.05 M Sodium cacodylate trihydrate pH 6.0, 16% w/v Polyethylene glycol 1,000, 0.0005 M Spermine		
58. (E10)	0.005 M Magnesium chloride hexahydrate, 0.002 M Calcium chloride dihydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 15% v/v 2-Propanol, 0.001 M Spermine		
59. (E11)	0.075 M Sodium chloride, 0.002 M Calcium chloride dihydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 30% w/v 1,6-Hexanediol, 0.0005 M Spermine		
60. (E12)	0.02 M Magnesium sulfate hydrate, 0.002 M Cobalt(II) chloride hexahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.0, 25% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.0005 M Spermine		
61. (F1)	0.05 M Sodium cacodylate trihydrate pH 6.0, 30% v/v (+/-)-2-Methyl-2,4-pentanediol		
62. (F2)	0.08 M Sodium chloride, 0.012 M Potassium chloride, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 6.0, 30% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
63. (F3)	0.08 M Sodium chloride, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 6.0, 35% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
64. (F4)	0.08 M Strontium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 6.0, 35% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
65. (F5)	0.08 M Potassium chloride, 0.02 M Barium chloride dihydrate, 0.04 M Sodium cacodylate trihydrate pH 6.0, 40% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
66. (F6)	0.08 M Potassium chloride, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 6.0, 45% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
67. (F7)	0.08 M Sodium chloride, 0.04 M Sodium cacodylate trihydrate pH 6.0, 45% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
68. (F8)	0.08 M Sodium chloride, 0.02 M Barium chloride dihydrate, 0.04 M Sodium cacodylate trihydrate pH 6.0, 45% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
69. (F9)	0.012 M Sodium chloride, 0.08 M Potassium chloride, 0.04 M Sodium cacodylate trihydrate pH 6.0, 50% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
70. (F10)	0.08 M Potassium chloride, 0.04 M Sodium cacodylate trihydrate pH 6.0, 55% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
71. (F11)	0.018 M Magnesium chloride hexahydrate, 0.05 M Sodium cacodylate trihydrate pH 6.5, 10% v/v 2-Propanol, 0.003 M Spermine		
72. (F12)	0.02 M Magnesium chloride hexahydrate, 0.05 M MOPS pH 7.0, 2.0 M Ammonium sulfate, 0.0005 M Spermine		
73. (G1)	0.05 M HEPES sodium pH 7.0, 40% v/v Tacsimate™ pH 7.0, 0.002 M Spermine, 0.002 M Hexamine cobalt(III) chloride		
74. (G2)	0.02 M Magnesium chloride hexahydrate, 0.05 M MOPS pH 7.0, 55% v/v Tacsimate™ pH 7.0, 0.002 M Hexamine cobalt(III) chloride		
75. (G3)	0.02 M Magnesium chloride hexahydrate, 0.05 M Sodium cacodylate trihydrate pH 7.0, 15% v/v 2-Propanol, 0.001 M Hexamine cobalt(III) chloride, 0.001 M Spermine		
76. (G4)	0.005 M Magnesium chloride hexahydrate, 0.05 M MOPS pH 7.0, 25% v/v 1,4-Dioxane, 0.001 M Spermine		
77. (G5)	0.01 M Magnesium chloride hexahydrate, 0.002 M Barium chloride dihydrate, 0.05 M MOPS pH 7.0, 30% v/v 1,4-Dioxane		
78. (G6)	0.001 M Magnesium chloride hexahydrate, 0.002 M Calcium chloride dihydrate, 0.05 M MOPS pH 7.0, 15% v/v (+/-)-2-Methyl-2,4-pentanediol		
79. (G7)	0.08 M Strontium chloride hexahydrate, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 7.0, 20% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
80. (G8)	0.08 M Sodium chloride, 0.04 M Sodium cacodylate trihydrate pH 7.0, 30% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
81. (G9)	0.04 M Lithium chloride, 0.08 M Strontium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 7.0, 30% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
82. (G10)	0.04 M Lithium chloride, 0.08 M Strontium chloride hexahydrate, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 7.0, 30% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
83. (G11)	0.08 M Sodium chloride, 0.012 M Potassium chloride, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 7.0, 35% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
84. (G12)	0.012 M Sodium chloride, 0.08 M Potassium chloride, 0.04 M Sodium cacodylate trihydrate pH 7.0, 40% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
85. (H1)	0.08 M Sodium chloride, 0.02 M Barium chloride dihydrate, 0.04 M Sodium cacodylate trihydrate pH 7.0, 40% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
86. (H2)	0.08 M Sodium chloride, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 7.0, 40% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
87. (H3)	0.08 M Potassium chloride, 0.02 M Barium chloride dihydrate, 0.04 M Sodium cacodylate trihydrate pH 7.0, 40% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
88. (H4)	0.08 M Potassium chloride, 0.02 M Magnesium chloride hexahydrate, 0.04 M Sodium cacodylate trihydrate pH 7.0, 50% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
89. (H5)	0.08 M Potassium chloride, 0.04 M Sodium cacodylate trihydrate pH 7.0, 60% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.012 M Spermine tetrahydrochloride		
90. (H6)	0.02 M Magnesium chloride hexahydrate, 0.002 M Cobalt(II) chloride hexahydrate, 0.05 M HEPES sodium pH 7.5, 2.0 M Ammonium sulfate, 0.001 M Spermine		
91. (H7)	0.02 M Magnesium chloride hexahydrate, 0.05 M PIPES pH 7.5, 4% w/v Polyethylene glycol 8,000, 0.001 M Spermine		
92. (H8)	0.015 M Magnesium chloride hexahydrate, 0.002 M Barium chloride dihydrate, 0.05 M PIPES pH 7.5, 7% v/v 2-Propanol, 0.0005 M Spermine		
93. (H9)	0.02 M Magnesium chloride hexahydrate, 0.05 M PIPES pH 7.5, 10% w/v 1,6-Hexanediol, 0.001 M Spermine		
94. (H10)	0.01 M Magnesium chloride hexahydrate, 0.05 M HEPES sodium pH 7.5, 15% v/v (+/-)-2-Methyl-2,4-pentanediol, 0.0015 M Spermine		
95. (H11)	0.2 M Calcium chloride dihydrate, 0.05 M HEPES sodium pH 7.5, 28% v/v Polyethylene glycol 400, 0.002 M Spermine		
96. (H12)	0.002 M Copper(II) chloride dihydrate, 0.05 M TRIS hydrochloride pH 8.5, 1.8 M Lithium sulfate monohydrate, 0.0005 M Spermine		