

T1089 (Sialidase24)

CASP14 Conference

Steven Rees

November 30, 2020



LLG: 300 TFZ: 8

Published models

9 from PDB

~16-26% homology

Phenix.Phaser	
Summary	
Phaser has found 1 MR solution(s).	
→	Top LLG: 70.708
→	Top TFZ: 9.8
	Spacegroup: P 41

Phenix.Refine

N/A

Phenix.AutoBuild

N/A

Phyre2

(PDB-based models)

Ensemble

5 mods, ~20-26% hom

CASP14 (model 1)

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Summary	
Phaser has found 1 MR solution(s).	
→ Top LLG:	193.885
→ Top TFZ:	14.1
Spacegroup:	P 41

Phenix.Refine

N/A

	Starting	Final
R-work	0.4847	0.4286
R-free	0.4746	0.4530
Bonds	0.020	0.007
Angles	2.687	1.360

Phenix.AutoBuild

N/A

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Summary	
Phaser has found 1 MR solution(s).	
→ Top LLG:	261.913
→ Top TFZ:	17.4
Spacegroup:	P 41

Phenix.Refine

N/A

	Starting	Final
R-work	0.4847	0.4286
R-free	0.4746	0.4530
Bonds	0.020	0.007
Angles	2.687	1.360

	Starting	Final
R-work	0.4910	0.4535
R-free	0.4884	0.4666
Bonds	0.008	0.002
Angles	1.863	0.543

Phenix.AutoBuild

N/A

N/A

	Starting	Final
R-work	0.3341	0.3487
R-free	0.3766	0.3918
Bonds	0.032	0.003
Angles	1.532	0.797

CASP14 (model 1)

LLG: 300 TFZ: 8

Published models

9 from PDB

~16-26% homology

Phyre2

(PDB-based models)

Ensemble

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CASP14 (model 1)

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Phaser has found 1 MR solution(s).	
→ Top LLG:	261.913
→ Top TFZ:	17.4
Spacegroup:	P 41

Summary	
Phaser has found 1 MR solution(s).	
→ Top LLG:	3069.488
→ Top TFZ:	55.1
Spacegroup:	P 41

Phenix.Refine

N/A

	Starting	Final
R-work	0.4847	0.4286
R-free	0.4746	0.4530
Bonds	0.020	0.007
Angles	2.687	1.360

	Starting	Final
R-work	0.4910	0.4535
R-free	0.4884	0.4666
Bonds	0.008	0.002
Angles	1.863	0.543

	Starting	Final
R-work	0.3887	0.2874
R-free	0.3900	0.3235
Bonds	0.012	0.006
Angles	1.628	0.925

Phenix.AutoBuild

N/A

N/A

	Starting	Final
R-work	0.3341	0.3487
R-free	0.3766	0.3918
Bonds	0.032	0.003
Angles	1.532	0.797

	Starting	Final
R-work	0.2223	0.2301
R-free	0.2647	0.2613
Bonds	0.009	0.003
Angles	1.313	0.654

LLG: 300

TFZ: 8

CASP14 Models

Phenix.Phaser

Model 2

Summary	
Phaser has found 1 MR solution(s).	
Top LLG:	3801.715
Top TFZ:	59.6
Spacegroup:	P 41

Model 3

Summary	
Phaser has found 1 MR solution(s).	
Top LLG:	3347.543
Top TFZ:	57.5
Spacegroup:	P 41

Model 1

Summary	
Phaser has found 1 MR solution(s).	
Top LLG:	3069.488
Top TFZ:	55.1
Spacegroup:	P 41

Model 4

Summary	
Phaser has found 1 MR solution(s).	
Top LLG:	3042.490
Top TFZ:	55.2
Spacegroup:	P 41

Model 5

Summary	
Phaser has found 1 MR solution(s).	
Top LLG:	2486.849
Top TFZ:	52.1
Spacegroup:	P 41

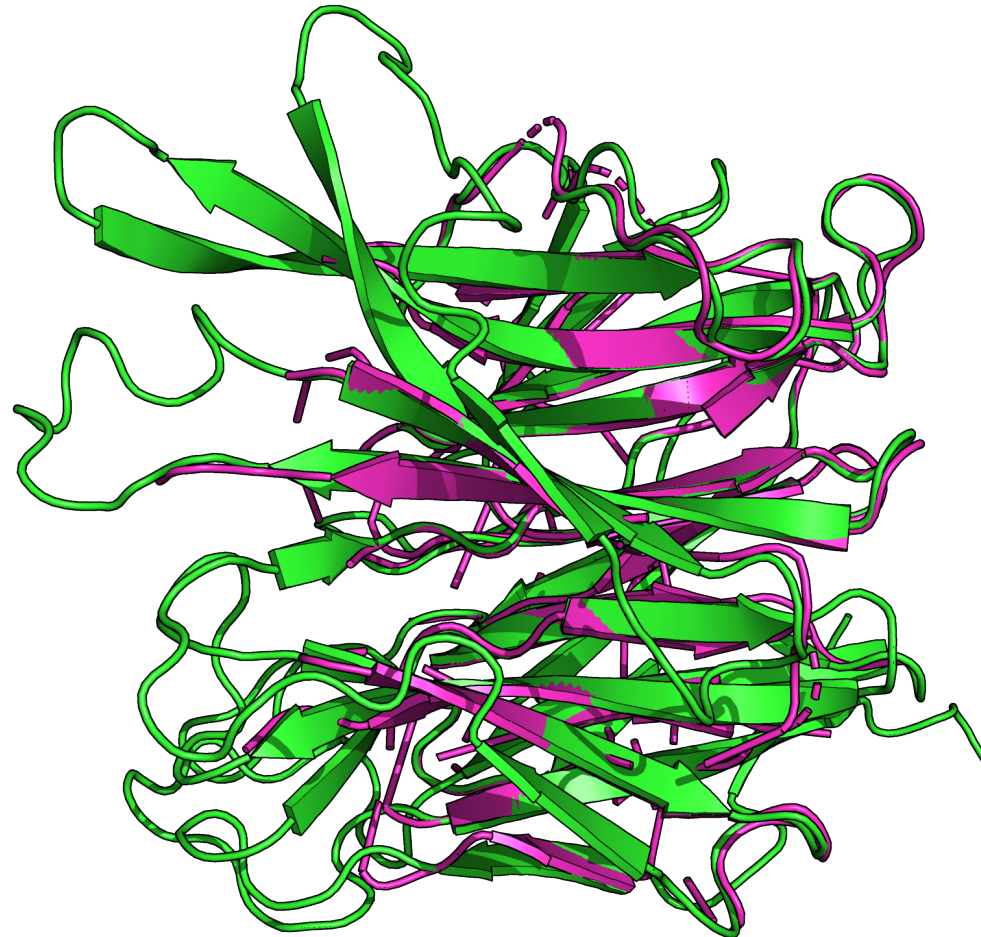
What Differed?

Ensemble

Summary	
Phaser has found 1 MR solution(s).	
Top LLG:	261.913
Top TFZ:	17.4
Spacegroup:	P 41

CASP14

Summary	
Phaser has found 1 MR solution(s).	
Top LLG:	3069.488
Top TFZ:	55.1
Spacegroup:	P 41



What Differed?

Phyre2

Summary

Phaser has found 1 MR solution(s).

Top LLG: 193.885

Top TFZ: 14.1

Spacegroup: P 41

CASP14

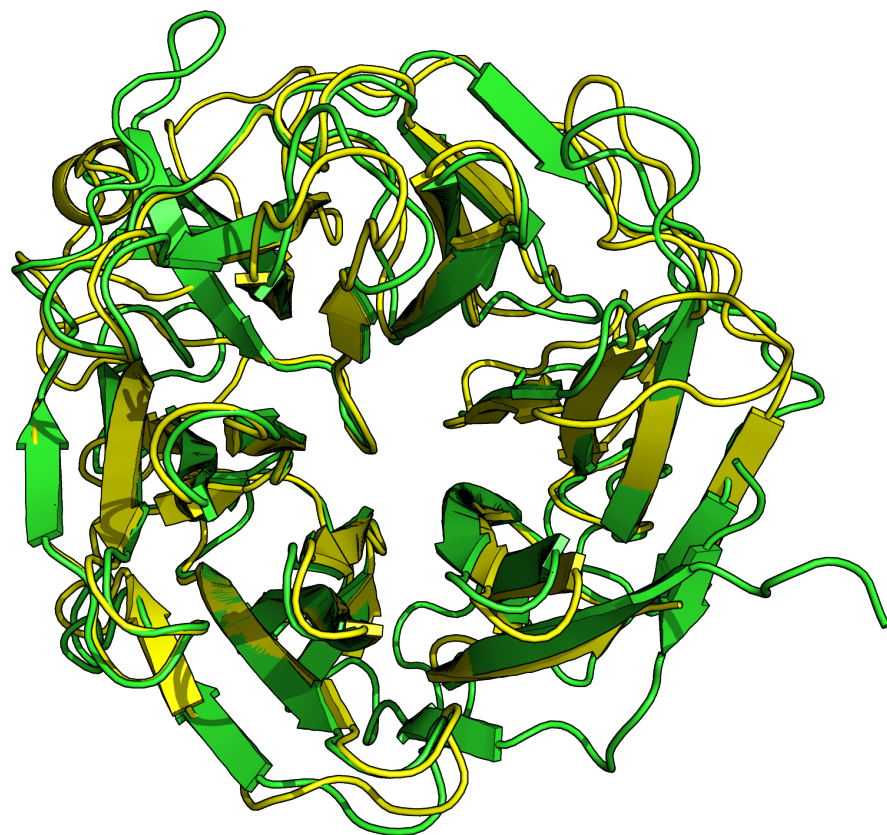
Summary

Phaser has found 1 MR solution(s).

Top LLG: 3069.488

Top TFZ: 55.1

Spacegroup: P 41



Next Steps

- Finalize structure refinement
- Publish (Dec-Jan)
- Model three more projects!
 - B+C: crystallization never repeated
 - D: poor phasing, 3.5-A res

Special Thanks!

- Chang Lab (G. Chang, H. Khera, J. Pobre)
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UC San Diego
School of Medicine

