



Molecular
Dimensions

Crystallophore Nº1

Can we help with your three 'F's?



Molecular Dimensions is now exclusively selling



Polyvalan Crystallophore Nº1



The only single compound that can solve three problems at once:

Forming – Growing a crystal capable of producing high quality diffraction data

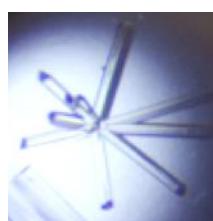
Finding – Identifying crystals in drops quickly and accurately

Phasing – No explanation needed?

Polyvalan Crystallophore Nº1 (patent pending) is a luminescent Terbium complex that is an effective nucleant and provides significant isomorphous and anomalous phasing power.

Forming

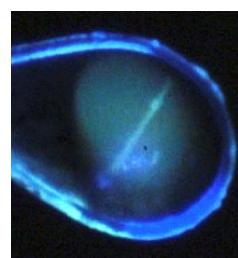
pb6 protein from T5 phage



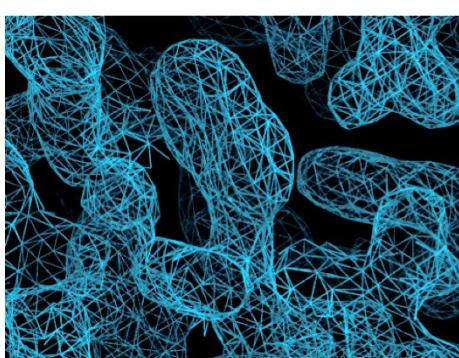
--- Crystallophore No 1 +++

Acts as a nucleating agent and improves crystal quality of pre-existing hits

Finding



Luminesces strongly in the visible region under UV excitation making detecting crystals in drops and loops easy



P. horikoshii Protease 1 electron density from SAD phasing using the Terbium L_{III} absorption edge. Crystal grown in 10 mM and subsequently soaked in 100 mM Crystallophore Nº1.

Terbium is a lanthanide and therefore has significant potential for use as an anomalous scatterer and in traditional isomorphous replacement. When the complex has been used as a nucleant, it is often found bound to the protein thus providing high quality phasing power.

Phasing

Europe & the rest of the world

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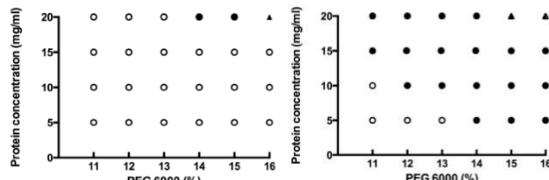
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Crystallization hits (black dots) plotted against increasing protein and precipitant concentration for pb6 from T5 phage.



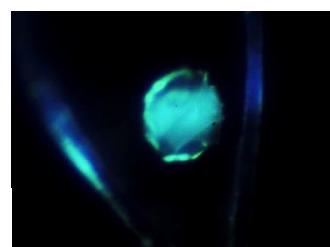
Improved crystal quality for ANC80 synthetic gene product: (left) native crystals and (right) with Crystallophore N°1.

Improve your hit rate

- One vial contains enough Crystallophore N°1 to set 6 trays with 100 nl protein drops.
- Compatible with standard protein crystallization trial conditions:
 - Water soluble.
 - Does not precipitate or self-crystallize in 584 commercial screen conditions tested.
- Generates novel hits compared to protein alone
- Improves crystal quality when hit also occurs without Crystallophore N°1 (left).
- Doubles the number of crystal screening hits for many proteins, the effect can be much larger for some targets.
- Reduces protein AND precipitant concentration required to produce nucleation (left).



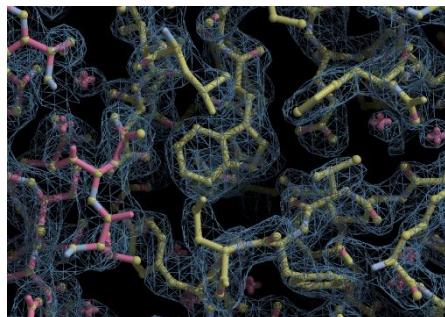
Crystals with Crystallophore N°1 in a drop.



Crystals with Crystallophore N°1 in a loop (ID29S, ESRF).

Luminescence

- Excitation possible between 250 and 380 nm.
- Emission in the visible range between 475 and 635 nm.
- Crystals glow with a green light and are easy to discern 'by eye':
 - Easily identify crystal hits in drops.
 - Simply locate crystal in loop when collecting data.



Electron density map for pb9 from T5 phage with SAD phases using Crystallophore N°1.

Phasing Facts

- Tb³⁺ has 62 electrons making it ideal for heavy atom phasing.
- Powerful tool for SAD and SIRAS phasing: Terbium's L_{III} absorption edge is around 1.6 Å (7.5 KeV, f'' ~ 30 electrons), with significant anomalous signal present far from the edge.
- Crystals grown in presence of our suggested concentration of 10 mM Crystallophore N°1, may be soaked in 10x more concentrated compound for optimum phasing.

Ordering Information

	Pack Size	Description
MD2-80	1 vial	Polyvalan Crystallophore N°1
MD2-81	5 vials	Polyvalan Crystallophore N°1 multipack