Rigaku
oxford diffraction

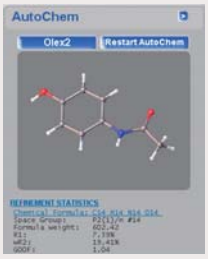
Break the size barrier!

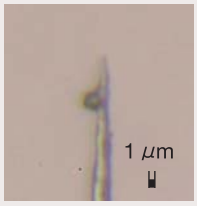
Think your crystal is too small for X-ray crystallographic analysis?

Think again! Even tiny microcrystals can yield full structures

A tiny (1 μm x 2 μm x 3 μm) crystal flake was selected from the powder contained in a pain killer capsule and subjected to single crystal structure analysis. After 30 min, AutoChem revealed the structure along with the absolute configuration, confirming that the crystal consists of acetaminophen.

Space group	$P2_1/n$
Chemical formula	$C_8H_9NO_2$
Formula weight / ASU	602.42
Total time Dose time	34 m 25 s 34 m 20 s
R_1 (%)	7.36
wR_2 (%)	19.09
Goodness of fit	1.04

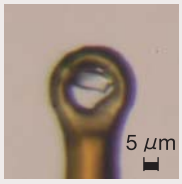




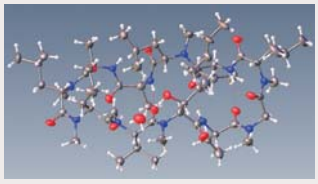
3 x 2 x 1 μm³
Vol: 6 μm³

Finish measurement before it decays

The structure analysis of cyclosporine A was a challenge because the crystal was small and rapidly damaged by X-rays. Nevertheless, accurate measurement of the weak anomalous signals was required because the drug consists of optically active amino acid derivatives. The HyPix-Arc 150° detector enabled structure determination in 2 hours because of its wide capture angle of diffracted X-rays.



25 x 10 x 6 μm³
Vol: 1,500 μm³



Cyclosporine A: $C_{62}H_{111}N_{11}O_{12}$
Molecular Weight: 1202.61
R_1=7.21%, Flack=-0.0 (2)

XtaLAB SynergyCustom FR-X HyPix-Arc150°

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