

# Newsletter

## **Key Organics Achieves ISO9001 Certification**

We are very proud to have received ISO9001 certification from the BSI and follows our recent \$1 M investment in a new, state-of-the-art process R&D/Scale-up laboratory at our Camelford, UK site. It is testament to the consistency, rigor and focus which we bring to our customers as we support their chemistry projects with an unquestionable ability to deliver high quality across both our Bionet product group and chemistry services. The project has been expertly managed by our Senior Manager, Andrew Lowerson and other colleagues who have worked diligently to deliver this in a timely and efficient manner and well ahead of schedule.



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# Change of Ownership & Control

On 5th February 2025 our CEO, Dr Joe Carey, completed a management buyout (MBO) of Key Organics from Tennants Consolidated Limited. On this announcement, Joe made the following statement:

"Through the mentorship and stewardship within the Tennants Consolidated Ltd. (TCL) Group over the last 22 years, Key Organics has grown to establish itself as a serious player within the Chemistry CRO sector. Together with a \$1M investment in a state-of-the-art process development lab in 2023/4 as well as achieving ISO9001 quality accreditation in January 2025 we are well placed to further grow the business as a stand-alone SME and realise our full potential within a challenging and competitive global market environment. I am personally very grateful to our board and to TCL for this opportunity as well as their incredible and unwavering support during the 13 years we have worked together".



Key Organics Camelford, UK site

In addition, Sean Sloan, Chief Financial Officer of Tennants Consolidated Ltd, and former Chair of Key Organics Limited, commented:

"This successful MBO, led by Dr. Joe Carey, is a testament to the hard work, dedication, and innovation that has been fostered under our stewardship. Over the years, Key Organics has consistently demonstrated excellence in providing cutting-edge solutions to the life sciences sector.

We are confident that this new chapter will allow Key Organics to further capitalize on its strengths. While this marks the end of our direct ownership, we look forward to seeing the company thrive. On behalf of TCL, I would like to express our gratitude to the entire Key Organics team for their contributions and wish them continued success in their next chapter".

### Our NEW Bionet Amino Acid Product Launch!

Since the first  $\alpha$ -amino acid synthesis was reported in 1850 by Adolph Strecker; utilising an aldehyde with cyanide in the presence of ammonia in a condensation reaction that yields an  $\alpha$ -aminonitrile (*Figure 1*), this is subsequently hydrolysed to give the desired  $\alpha$ -amino acid as a racemic mixture.

Catalytic asymmetric Strecker reactions can also now be achieved using thiourea-derived catalysts. In 2012, a BINOL-derived catalyst was employed to generate a chiral cyanide anion and subsequently the homochiral  $\alpha$ -amino acid (*Figure 2*).<sup>1</sup>

Through additional innovations in biocatalysis, asymmetric catalysis and the resolution and recycling of racemic mixtures, medicinal and process development chemists now have a wide range of technologies to make and produce an infinite range of novel homochiral amino acids.

Amino Acids represent an important elaboration of our Bionet offerings given increasing and innovative R&D in new peptide-based therapeutics and as exemplified above, the access of new methodologies to allow both their synthesis and large-scale production.

Figure 1: The Strecker Amino Acid Synthesis

Figure 2: Scalable organocatalytic asymmetric Strecker reaction

NBoc

# A unique offering



- Intermediates
- Fragment Libraries
- Biochemicals
- Screening Compounds
- Stable Labels
- Amino Acids

Over the last decade, our Bionet product range has grown from 65,000 to over 330,000 products that are segmented by application and functionality.

At Key Organics, our new curated collection contains 6,925 products covering unprotected and a range of protected alpha–  $(\alpha$ –), beta– $(\beta$ –), gamma–  $(\gamma$ –) amino acids (*Table*).

These are available in various pack sizes and quantities for both early-stage research and larger scale. Within our chemistry services offerings we can also work exclusively with customers to make novel targeted products exclusively. Table: Key Organics Amino Acid Collection segmented by structural types and protected groups.

	α-	β-	γ-
Unprotected	1,649	580	115
Fmoc	1,035	362	48
N-benzyl	83	76	31
tBocN	1,398	776	307
Z(Cbz)-N	314	96	55
Total	4,479	1,890	556

For more information, please visit our website: www.keyorganics.net

#### Reference.

1. Yan, H., Suk Oh, J., Lee, JW. et al. Scalable organocatalytic asymmetric Strecker reactions catalysed by a chiral cyanide generator. Nat Commun 3, 1212 (2012)

#### Stable Isotope Labelled Building Blocks/Intermediates and custom synthesis

Stable labels (mainly <sup>13</sup>C and Deuterium) are widely used in the Pharmaceutical Industry primarily for use in DMPK studies. However, in recent years the industry has been investigating the advantages of deuterium in drug molecules with compounds now FDA approved, for example Deutetrabenazine and Deucravacitinib. There are many more in late stage development. The potential advantages of deuterated compounds are:

- Improved oral bioavailability
- Increased half-life
- Improved metabolic profile
- Wider IP cover

In the Agrochemical Industry, stable isotopes like <sup>13</sup>C and <sup>15</sup>N are used for tracing agrochemical fate, tracking the compounds' persistence and environmental impact as well as being used in mechanistic and kinetic experiments.

At Key Organics, as well as having a collection of over 10,000 stable labelled building blocks, we have extensive experience in providing stable labels on a custom synthesis basis to our clients.

# Stable Isotope Labelled Building Blocks 25A-0022 AZ-0003 DZ-0003 DZ-0006 CK-0215 HY-0235 HY-0236 HY-0238 FZ-0010 GZ-0042 HY-0234 HZ-0212 KZ-0042 MY-0038 NY-0020

#### References:

Elmore et al: Bioorganic & Medicinal Chemistry Letters, Volume 25, Issue 2, 15 January 2015, Pages 167-171 Pirali et al: Nature Reviews Drug Discovery, volume 22, pages 562-584 (2023)

#### **Upcoming Exhibitions**

We regularly attend and exhibit at the leading Chemistry, Drug Discovery and Biotech Conferences around the world.

2nd - 4th April	41st SCI Process Development Symposium	Cambridge, Booth 9
21st & 22nd May	CHEMUK 2025	Birmingham, UK
3rd & 4th June	5th Synthesis in Drug Discovery and Development 2025	Virtual
9th & 10th July	The Advanced Materials Show	Birmingham, UK
14th - 17th September	RSC-BMCS / SCI 23rd Medicinal Chemistry Symposium	Cambridge, UK, Booth 18
21st - 24th September	Fragment-Based Lead Discovery Conference 2025	Cambridge, UK

For more information, please visit: https://www.keyorganics.net/about/exhibition-conference-attendance

### Key Organics' Staff Profile: Dr Joe Carey, CEO

The last two years have been very challenging for the global CRO and CDMO sectors as evidenced by the Biosecure Act in the USA and reduced spending in global R&D. At Key Organics, we have been fortunate in respect to having a diverse customer base including agrochemicals, petrochemicals and material sciences such that our Services business has been largely unaffected. However, our Bionet product group is mainly applicable to pharma and agrochemical R&D and this has driven our focus on developing new product offerings that address areas where there is growth; amino acids and cold-labelled compounds.



In February 2025, I completed a management buyout of the share capital of Key Organics from TCL. The rationale for the MBO was very simple; to enable the business to grow as an SME and maximize its considerable potential. We are now starting our new chapter on a strong financial footing, no debt or liabilities and our new \$1 M asset; a new process and development lab plus ISO9001 certification. This hopefully gives our employees and customers confidence and stability

in what is currently a turbulent and volatile market. Key Organics has been in business for 35 years and during that time has successfully managed and delivered thousands of complex chemistry projects from the world's leading pharmaceutical companies through to new biotech spin-out companies.

Away from Key Organics and about 10 years ago, I returned to my childhood hobby of breeding and showing pedigree chinchilla rabbits. Although a declining hobby in terms of numbers (both exhibitors and rabbits), it is rewarding and fun plus an excellent stress reliever. So usually at weekends my wife

(Maria) and I typically leave the house in the early hours to drive from the depths of Cornwall with a chinchilla rabbit or two to a show, sometimes as far away as Kelso, Scotland. They are judged to a detailed breed standard and stunning when fit and in coat. I am usually a bag of nerves when one of ours occasionally makes it to the last four for best in show judging! The young chinchilla shown here was victorious at one of the summer agricultural shows last year.



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