



Biotech Patent Attorneys, Have a Look at Your New Sequence Listing

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By Noel Courage

A new WIPO sequence listing standard is in the works, called [ST.26](#). It provides a modernization of the old format ST.25. It is a much more detailed and complex standard, and it switches the enabling software from text only format to XML format. This article provides a brief overview.

The New Format

Let's take a small peptide, glucagon, as an example. It is 29 amino acids long, and helps release glucose from storage into your blood. A sequence listing for glucagon peptide would look like this under the current WIPO Standard ST.25 (the sample below is **edited and formatted for brevity**):

```
<210> 1
<211> 29
<212> PRT
<213> Homo sapiens

<400> 1

His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys Tyr Leu Asp Ser
1           5           10           15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr
          20           25
```

The sequence listing will look something like this under the new standard ST.26 (the sample below is **edited and formatted for brevity**):

```
<SequenceData sequenceIDNumber="1">
  <INSDSeq_length>29</INSDSeq_length>
  <INSDSeq moltype>AA</INSDSeq moltype>
    <INSDQualifier_name>ORGANISM</INSDQualifier_name>
    <INSDQualifier_value>Homo sapiens</INSDQualifier_value>
    <INSDQualifier_name>MOL_TYPE</INSDQualifier_name>
    <INSDQualifier_value>protein</INSDQualifier_value>
  <INSDSeq sequence> HSQGTFTSDYSKYLDLRRAQDFVQWLMNT </INSDSeq sequence>
```

Progress on Implementation of ST.26

The Committee on WIPO Standards (CWS) developed the new WIPO Standard ST.26, and adopted it in 2017. It established a Sequence Listing Task Force, led by the European Patent Office (EPO), to assist with certain tasks¹. Consultations were held with government and non-government associations².

ST.26 will be mandatory and paperless. The beta versions of the sequence listing software and validator tool are available for download [here](#) for all users. The program will be stored locally by users, not on a cloud service³. The new format is intended to come into effect for January 2022 in what WIPO is calling the "Big Bang", meaning that all patent offices would transition from ST.25 to ST.26 at the same time. The ST.25 standard would not be used in parallel with ST.26⁴.

The new standard will permit more detail in sequence listings, and should improve compatibility with public sequence databases. It is intended that detailed sequence searching should become easier for patentability and freedom to operate analysis.

The WIPO PCT International Bureau has produced the new software to assemble the new sequence listings (called "WIPO Sequence"; the old "PatentIn" software will be dropped). The change from text only format to XML format basically means the sequence listing will have computer tags that facilitate sorting



and retrieval by software, which should permit more options for a useful display format. A good display output is necessary because the tags do very little to improve readability of the sequence listing in its basic state, as shown by the sample above. There will also be conversion software to convert at least some old standard sequence listings to the new standard.

No immediate action is required by patent attorneys. However, attorneys should take note that sequence listings are about to become more comprehensive, so that they are not caught off guard. For example, sequences less than 10 nucleotides and less than 4 amino acids will be listable under the new standard. Sequences with D amino acids will become required. Branched sequences will also need to be listed. There will be enhanced feature qualifiers. For applicants that file large numbers of sequences, the file sizes will be much larger.

WIPO is currently running pilot testing on its software, and intends to collect user feedback on software performance. Certain patent attorney associations have also been invited to test the software and provide feedback. Try it out at your convenience to be ready for the Big Bang!

This article was first published in the [International Association for the Protection of Intellectual Property \(AIPPI\) e-News](#) on February 28, 2020.

1 Meeting of International Authorities Under the Patent Cooperation Treaty (PCT), Twenty-Fourth Session, Reykjavik, February 8 to 10, 2017. Transition from WIPO Standard ST.25 to WIPO Standard ST.26 for the Presentation of Nucleotide and Amino Acid Sequence Listings.

2 For example, see Information Circular PCT 1485/C 2016, PCT/WG12/13, PCT/WG/12/14.

3 Meeting of International Authorities under the PCT. Twenty-Sixth Session. PCT/MIA/26/2. February 13-14, 2019.

4 Dr. Lutz Mailander (WIPO). Topic 14. WIPO Standards ST.25 and ST.26. Powerpoint. May 24, 2019.

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