

Can You Patent an Old Dog Doing New Tricks?

By Blair Hesp

This issue marks the 10 year anniversary of the *Patent Proze* column being published in Chemistry in New Zealand. Accordingly, at this time it may be appropriate to ask a question that may interest a lot of chemists: "Can I patent an old dog doing new tricks?" Potentially you can. The most well known New Zealand example being the discovery, patenting and subsequent court battle over the antibiotic amoxicillin.

SELECTION INVENTIONS

Amoxicillin was developed in the seventies and patented by Beecham Group in the face of strong opposition from Bristol-Myers Company on the basis that amoxicillin was broadly claimed in an earlier patent, and its likely antibiotic activity was known (*Beecham Group Ltd v. Bristol-Myers Company* [1980] 1 NZLR 192). Following numerous court battles around the world on the subject, subsequent patent applications by Beecham for the preparation of a composition for oral administration containing amoxicillin were generally accepted as patentable a "selection invention". This goes against conventional wisdom, in that most people would presume that once a group of compounds is claimed by one inventor, another inventor cannot then claim the same compound.

There were two key issues at stake in this case. First of all, despite Bristol-Myers claiming amoxicillin under a patent for ampicillin-derivatives, amoxicillin (6[(-)-oc-amino-p-hydroxyphenylacetamido]penicillanic acid) had not previously been isolated or specifically synthesised, from the racemic mixture containing both the (-)- and (+)-epimers of 6(oc-amino-p-hydroxyphenylacetamido)penicillanic acid. Subsequently, Beecham purified amoxicillin and discovered the compound's surprisingly good oral absorption when compared to the other ampicillin-derivatives claimed by Bristol-Myers. Because Beecham was the first to purify amoxicillin and identify its significantly better oral absorption properties the patent applications for amoxicillin succeeded because the compound amoxicillin, which had been 'selected' out of all the compounds claimed by Bristol-Myers, exhibited a "special and unexpected advantage" over any of the other claimed compounds. The term 'selection invention' is used to describe a subsequent invention borne out of an earlier, and usually more generically defined invention. All of the compounds which are the subject of a selection invention must exhibit some unexpected

properties, or overcome a disadvantage, of the earlier class of compounds. Therefore, selection inventions tend to be directed to a narrow class of compounds.

COLLOCATION OF KNOWN AGENTS

A further example of a patentable invention is the combination of two or more previously known agents which together exhibit a working interrelationship to produce a benefit or to overcome a disadvantage. An example of this could well be a process which normally occurs at a very slow rate, but which is sped up by an otherwise inactive catalyst, or a combination of drugs exhibiting synergistic activity. For example, amoxicillin is an effective antibiotic to which bacteria quickly became resistant. Clavulanic acid is a beta-lactamase inhibitor with no bacteriocidal activity in itself, but when co-administered with amoxicillin, potentiates the antibiotic effect of amoxicillin. Subsequently, this combination was patented because the effectiveness of the combination was superior to what could be expected by simply adding the two compounds together.

SECOND MEDICAL USES OF DRUGS

While a new use for an old invention is generally not patentable, there is an exception when it comes to second medical uses for previously known drugs. In other words, if it is found that a well known drug is effective against condition A, but is later found to also be effective against condition B, it is possible to patent the drug for use in preparations designed to treat condition B. A potential example where a second medical use could have been claimed is the anti-inflammatory drug aspirin, which was subsequently found to be useful when administered in low doses for the prevention of potentially deadly blood clots.

Therefore, if you do find that it is possible 'to teach an old dog new tricks' then it may be possible to secure patent rights over any 'new trick' which is developed.

A reminder: if you have any queries regarding patents, or indeed any form of intellectual property, please direct them to:

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