

Drawing a Pyridinium Ion

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Question:

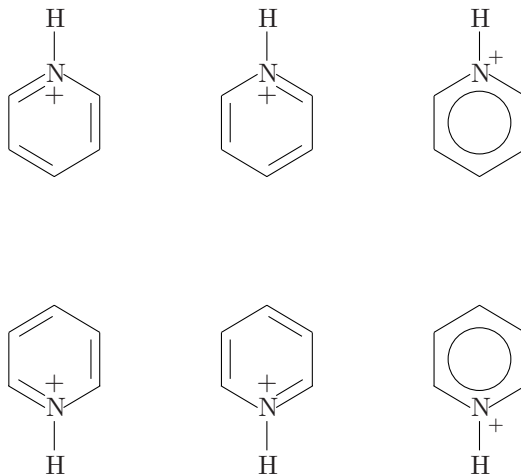
How can we draw a pyridinium ion?

Answer:

In case of using `\pyridinev` or `\pyridinevi`, the following codes:

```
\begin{center}
\pyridinev[r{1+}]{1==H}
\pyridinev[l{1+}]{1==H}
\pyridinev[A{1\setchargeetc(100,150){+}}]{1==H} \\\
\pyridinevi[r{1+}]{1==H}
\pyridinevi[l{1+}]{1==H}
\pyridinevi[A{1\setchargeetc(100,-150){+}}]{1==H}
\end{center}
```

typeset a pyridinium ion of various expressions:



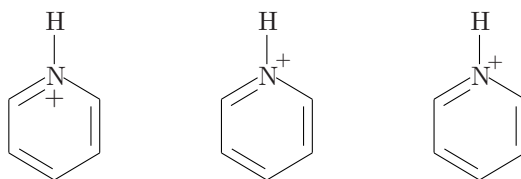
Note that the `\setchargeetc` command has been defined as follows:

```
\def\setchargeetc(#1,#2)#3{\put(#1,#2){\hbox to0pt{\hss\scriptsize #3\hss}}}
```

In case of using `\sixheterov` (or `\sixheterovi`), on the other hand, the following codes:

```
\begin{center}
\sixheterov[bdf{1+}]{1==N}{1==H}
\sixheterov[bdf{1\setchargeetc(100,150){+}}]{1==N}{1==H}
\sixheterov[bdf]{1==N;1==\setchargeetc(90,70){+}}{1==H}
\end{center}
```

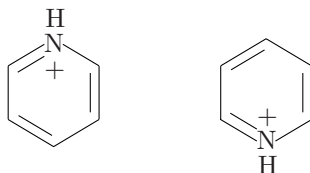
typeset a pyridinium ion of various expressions:



Note that the `\setchargeetc` command can be used in the bondlist (the second example) as well as in the atomlist (the third example).

If we want to omit the single bond symbol between N and H, we can use `\upnobond` and `\downnobond` in a nested fashion:

```
\begin{center}
\sixheterov[bdf]{1==\upnobond{\downnobond{N}{+}}{H}}{}
\sixheterovi[bdf]{1==\downnobond{\upnobond{N}{+}}{H}}{}
\end{center}
```



The plus charge of a pyridinium ion can be typeset by other methods. The following examples show such alternative expressions:

```
\begin{center}
\sixheterov[bdf]{1==\upnobond{N\rlap{$^+}$}}{H}}{}
\sixheterovi[bdf]{1==\downnobond{N\rlap{$_+$}}{H}}{} \ \
\sixheterov[bdf]{1==\upnobond{N}{H}; 1==\setchargeetc(110,60){+}}{}
\sixheterovi[bdf]{1==\downnobond{N}{H}; 1==\setchargeetc(110,-30){+}}{} \ \
\sixheterov[bdf]{1\setchargeetc(110,120){+}}{1==\upnobond{N}{H}}{}
\sixheterovi[bdf]{1\setchargeetc(110,-120){+}}{1==\downnobond{N}{H}}{}
\end{center}
```

