For the molecules below:

- Using the correct combination of in plane, wedged and dashed lines re-draw the compounds below in three-dimensional form.
- Check the boxes below the molecule to indicate whether the compound has a molecular dipole moment ( $\mu=0$ or $\mu \neq 0$ ).
- For those compounds that have dipole moments indicate the direction of the dipole

$$
\begin{array}{cc}
\mathrm{CH}_{3} \mathrm{Br} & \mathrm{CH}_{3} \mathrm{OCH}_{3} \\
\square \mu=0 \square \mu \neq 0 & \square \mu=0 \square \mu \neq 0
\end{array}
$$

$\mathrm{BF}_{3}$
$\square \mu=0 \square \mu \neq 0$

$$
\begin{gathered}
\mathrm{NH}_{3} \\
\square \mu=0 \quad \square \mu \neq 0
\end{gathered}
$$

For the molecules below:

- Check the boxes below the molecule to indicate whether the compound has a molecular dipole moment ( $\mu=0$ or $\mu \neq 0$ ).
- For those compounds that have dipole moments indicate the direction of the dipole


$$
\square \mu=0 \square \mu \neq 0
$$



$$
\square \mu=0 \square \mu \neq 0
$$

