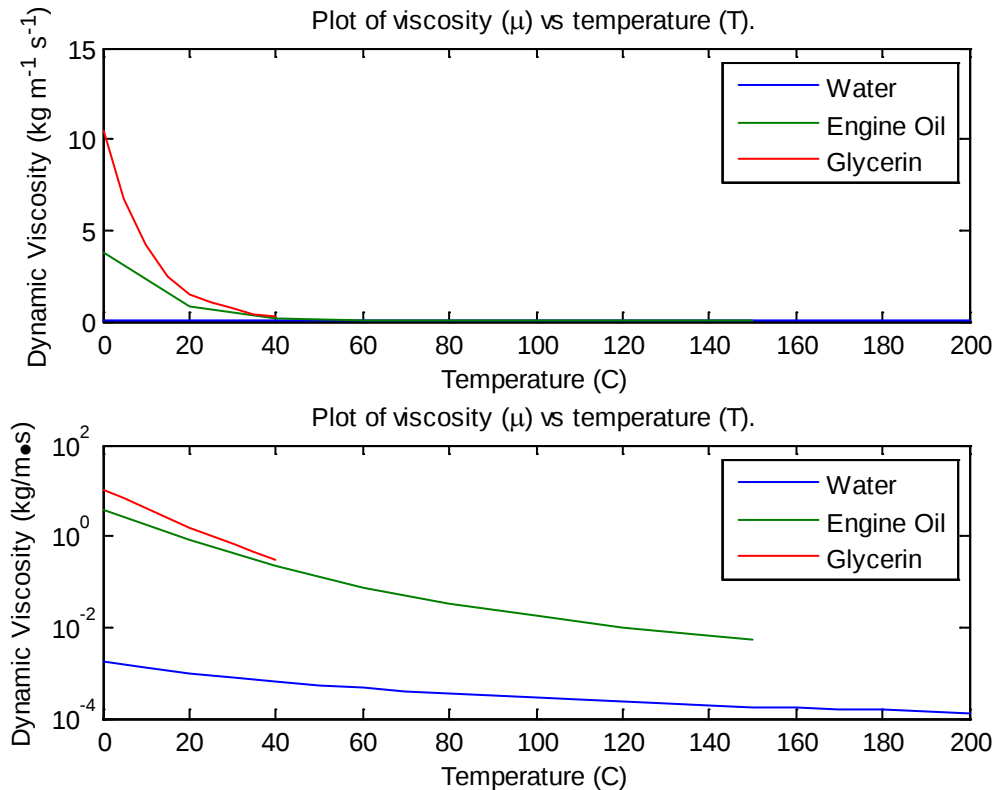


Mathematical Symbols, Greek Letters, and TEX Characters

In the graphs below, Greek letters and special symbols as well as superscripts have been employed.



Superscripts: use the **carat** “[^]” before EACH character or employ brackets:

X^2 $X^{2.5}$ $X^{\sin(x)}$

Subscripts: use the **underscore** “” before EACH character or employ brackets:

X_0 X_{min} X_{2i+1}

To use Greek letters and special characters, use the **Latex escape character backslash** “\” immediately before the Latex character name:

$\sin(\alpha)$: $\sin(\backslash\alpha)$ and $\sin(\beta^2)$: $\sin(\backslash\beta^2)$

For the upper graph:

```
title('Plot of viscosity (\mu) vs temperature (T).')
ylabel('Dynamic Viscosity (kg m^{-1} s^{-1})')
```

For the lower graph

```
ylabel('Dynamic Viscosity x_{min}(kg/m\bullet s)')
```

Mathematical Symbols, Greek Letters, and TEX Characters

You can include mathematical symbols and Greek letters in text using TEX-style character sequences. This section describes how to construct a TEX character sequence.

Two Levels of MATLAB TEX Support

There are two levels of TEX support, controlled by the text [Interpreter](#) property:

- 'tex' — Support for a subset of TEX markup
- 'latex' — Support for TEX and LATEX markup

If you do not want the characters interpreted as TEX markup, then set the interpreter property to 'none'.

Available Symbols and Greek Letters

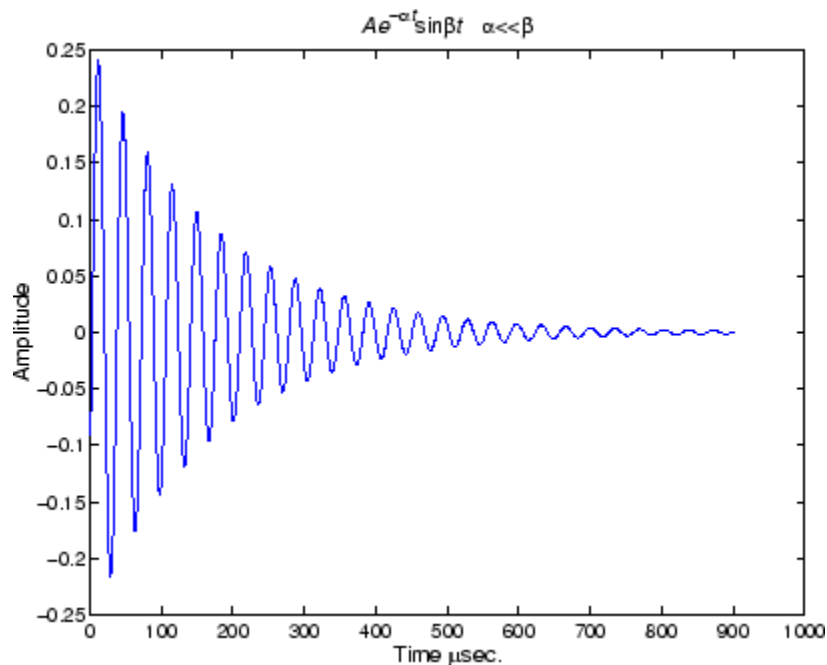
For a list of symbols and the character sequences used to define them, see the [table of available TEX](#) characters in the Text Properties reference page.

In general, you can define text that includes symbols and Greek letters using the [text](#) function, assigning the character sequence to the [String](#) property of text objects. You can also include these character sequences in the string arguments of the [title](#), [xlabel](#), [ylabel](#), and [zlabel](#) functions.

Example — Using a Mathematical Expression to Title a Graph

This example uses TEX character sequences to create graph labels. The following statements add a title and x- and y-axis labels to an existing graph.

```
title('{\it Ae}^{-\alpha\itt}\sin\beta{\itt} \alpha<<\beta')
xlabel('Time \musec.')
ylabel('Amplitude')
```



String

string

Text string. Specify this property as a quoted string for single-line strings, or as a cell array of strings, or a padded string matrix for multiline strings. MATLAB displays this string at the specified location. Vertical slash characters are not interpreted as line breaks in text strings, and are drawn as part of the text string. See [Mathematical Symbols, Greek Letters, and TeX Characters](#) for an example.

Note The words default, factory, and remove are reserved words that will not appear in a figure when quoted as a normal string. In order to display any of these words individually, type '\reserved_word' instead of 'reserved_word'.

When the text Interpreter property is Tex (the default), you can use a subset of TeX commands embedded in the string to produce special characters such as Greek letters and mathematical symbols. The following table lists these characters and the character sequences used to define them.

▼ [TeX Character Sequence Table](#)

Character Sequence	Symbol	Character Sequence	Symbol	Character Sequence	Symbol
\alpha	α	\upsilon	υ	\sim	$\sim$
\angle	$\angle$	\phi	ϕ	\leq	$\leq$
\ast	$*$	\chi	χ	\infty	∞
\beta	β	\psi	ψ	\clubsuit	$\clubsuit$
\gamma	γ	\omega	ω	\diamondsuit	$\diamondsuit$
\delta	δ	\Gamma	Γ	\heartsuit	$\heartsuit$
\epsilon	ϵ	\Delta	Δ	\spadesuit	$\spadesuit$
\zeta	ζ	\Theta	Θ	\leftrightarrow	$\leftrightarrow$
\eta	η	\Lambda	Λ	\leftarrow	$\leftarrow$
\theta	θ	\Xi	Ξ	\Leftarrow	$\Leftarrow$
\vartheta	ϑ	\Pi	Π	\uparrow	$\uparrow$
\iota	ι	\Sigma	Σ	\rightarrow	$\rightarrow$
\kappa	κ	\Upsilon	Υ	\Rightarrow	$\Rightarrow$
\lambda	λ	\Phi	Φ	\downarrow	$\downarrow$
\mu	μ	\Psi	Ψ	\circ	$\circ$

Character Sequence	Symbol	Character Sequence	Symbol	Character Sequence	Symbol
<code>\nu</code>	ν	<code>\Omega</code>	Ω	<code>\pm</code>	$\pm$
<code>\xi</code>	ξ	<code>\forall</code>	$\forall$	<code>\geq</code>	$\geq$
<code>\pi</code>	π	<code>\exists</code>	$\exists$	<code>\propto</code>	$\propto$
<code>\rho</code>	ρ	<code>\ni</code>	$\ni$	<code>\partial</code>	∂
<code>\sigma</code>	σ	<code>\cong</code>	$\cong$	<code>\bullet</code>	$\bullet$
<code>\varsigma</code>	ς	<code>\approx</code>	$\approx$	<code>\div</code>	$\div$
<code>\tau</code>	τ	<code>\Re</code>	$\Re$	<code>\neq</code>	$\neq$
<code>\equiv</code>	$\equiv$	<code>\oplus</code>	$\oplus$	<code>\aleph</code>	$\aleph$
<code>\Im</code>	$\Im$	<code>\cup</code>	$\cup$	<code>\wp</code>	$\wp$
<code>\otimes</code>	$\otimes$	<code>\subseteq</code>	$\subseteq$	<code>\oslash</code>	$\oslash$
<code>\cap</code>	$\cap$	<code>\in</code>	$\in$	<code>\supseteq</code>	$\supseteq$
<code>\supset</code>	$\supset$	<code>\lceil</code>	$\lceil$	<code>\subset</code>	$\subset$
<code>\int</code>	$\int$	<code>\cdot</code>	$\cdot$	<code>\circ</code>	$\circ$
<code>\rfloor</code>	$\rfloor$	<code>\neg</code>	$\neg$	<code>\nabla</code>	∇
<code>\lfloor</code>	$\lfloor$	<code>\times</code>	$\times$	<code>\ldots</code>	$\ldots$
<code>\perp</code>	$\perp$	<code>\surd</code>	$\surd$	<code>\prime</code>	$\prime$
<code>\wedge</code>	$\wedge$	<code>\varpi</code>	ϖ	<code>\emptyset</code>	$\emptyset$
<code>\rceil</code>	$\rceil$	<code>\rangle</code>	$\rangle$	<code>\mid</code>	$\mid$

Character Sequence	Symbol	Character Sequence	Symbol	Character Sequence	Symbol
\vee	∨			\copyright	©
\langle	⟨				

You can also specify stream modifiers that control font type and color. The first four modifiers are mutually exclusive. However, you can use `\fontname` in combination with one of the other modifiers:

- `\bf` — Bold font
 - `\it` — Italic font
 - `\sl` — Oblique font (rarely available)
 - `\rm` — Normal font
 - `\fontname{fontname}` — Specify the name of the font family to use.
 - `\fontsize{fontsize}` — Specify the font size in FontUnits.
 - `\color{colorSpec}` — Specify color for succeeding characters
- Stream modifiers remain in effect until the end of the string or only within the context defined by braces `{ }`.