The latex code for circuit

```
\begin{circuitikz}[american voltages][scale=1]\draw
(0,2)node[ground]{}
to[sV, l=$v_{s}$] (0, 5)
to[short] (2,5)
to[R, l^=$R_{in}$, v=$v_{i}$] (2,3)
to[short] (4,3)
\indentto[R, l^=$R_{E}$] (4,1)
node[ground]{}
(4,3)to[short] (5,3)
to[short] (7,3)
to[R, l^=$R_{o}$] (7,5)
(5,3)to[american controlled current source, l^=$g_{m}v_{i}$](5,5)
to[short](7,5)
(7,5)to[short, -o](8,5)
to[open, l^=$v_{o}$](8,3)
to[short, o-](8,2)
node[ground]{}
;
\end{circuitikz}
```

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