For LS coupling of identical particles, we have the restriction $L+S$ is even. The LS states are:

$(3s3s) \rightarrow\ ^1S$	1 substate
$(3p3p) \rightarrow\ ^1S,\ ^3P,\ ^1D$	$1+9+5=15$ substates
$(3d3d) \rightarrow\ ^1S,\ ^3P,\ ^1D,\ ^3F,\ ^1G$	$1+9+5+21+9=45$ substates
$(3s3d) \rightarrow\ ^1D,\ ^3D$	$5+15=20$ substates

For jj coupling of identical particles J is even. The jj coupled states are

$(3s_{1/2}\,3s_{1/2}) \rightarrow\ [0]$	1 substate
$(3p_{1/2}\,3p_{1/2}) \rightarrow\ [0]$	1 substate
$(3p_{1/2}\,3p_{3/2}) \rightarrow\ [1],\ [2]$	3+5= 8 substates
$(3p_{3/2}\,3p_{3/2}) \rightarrow\ [0],\ [2]$	1+5= 6 substates
$(3d_{3/2}\,3d_{3/2}) \rightarrow\ [0],\ [2]$	1+5= 6 substates
$(3d_{3/2}\,3d_{5/2}) \rightarrow\ [1],\ [2],\ [3],\ [4]$	3+5+7+9= 24 substates
$(3d_{5/2}\,3d_{5/2}) \rightarrow\ [0],\ [2],\ [4]$	1+5+9= 15 substates
$(3s_{1/2}\,3d_{3/2}) \rightarrow\ [1],\ [2]$	3+5= 8 substates
$(3s_{1/2}\,3d_{5/2}) \rightarrow\ [2],\ [3]$	5+7= 12 substates

In either coupling scheme there are a total of 81 magnetic substates.

For LS coupling of identical particles, we have the restriction $L+S$ is even. As a first step, couple two particles

$(2s2s) \rightarrow\ ^1S$	even-parity
$(2s2p) \rightarrow\ ^1P,\ ^3P$	odd-parity
$(2p2p) \rightarrow\ ^1S,\ ^3P,\ ^1D$	even-parity

For an even parity 3-particle state couple two $2p$ states $(2p2p)$ then couple the resulting state with the $2s$ $\quad (2p2p)[LS]2s$. The possible combinations are

$(2p2p)\left[^1S\right] 2s\ ^2S$	2×1 substates
$(2p2p)\left[^3P\right] 2s\ ^2P$	2×3 substates
$(2p2p)\left[^3P\right] 2s\ ^4P$	4×3 substates
$(2p2p)\left[^1D\right] 2s\ ^2D$	2×5 substates

Total number of substates = 2+6+12+10=30

For jj coupling of identical particles J is even. The $(2p2p)$ states are

$$(3p_{1/2}3p_{1/2}) \rightarrow [0]$$
$$(3p_{1/2}3p_{3/2}) \rightarrow [1],\ [2]$$
$$(3p_{3/2}3p_{3/2}) \rightarrow [0],\ [2]$$

Combining these with a $2s$ state leads to

$\left[(3p_{1/2}\,3p_{1/2})[0]\,2s_{1/2}\right][1/2]$	2 substates
$\left[(3p_{1/2}\,3p_{3/2})[1]\,2s_{1/2}\right][1/2]\&[3/2]$	2+4=6 substates
$\left[(3p_{1/2}\,3p_{3/2})[2]\,2s_{1/2}\right][3/2]\&[5/2]$	4+6=10 substates
$\left[(3p_{1/2}\,3p_{3/2})[0]\,2s_{1/2}\right][1/2]$	2 substates
$\left[(3p_{1/2}\,3p_{3/2})[2]\,2s_{1/2}\right][3/2]\&[5/2]$	4+6=10 substates

Total number of substates = 2+6+10+2+10=30