```
[
,dq4*(dq6*((7618384777*cos(q2)*cos(q4)*sin(q5))/125000000000 -
(614890153*sin(q2)*sin(q4)*sin(q6))/125000000000 -
(32755927981*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(10421867*cos(q2)*cos(q4)*sin(q6))/1953125000 -
(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 +
(7618384777*cos(q2)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(614890153*cos(q2)*cos(q3)*cos(q4)*sin(q6))/125000000000 +
(10421867*cos(q2)*cos(q5)*cos(q6)*sin(q4))/1953125000 +
(614890153*cos(q4)*cos(q5)*cos(q6)*sin(q2))/125000000000 -
(7618384777*cos(q3)*sin(q2)*sin(q4)*sin(q5))/125000000000 -
(10421867*cos(q3)*sin(q2)*sin(q4)*sin(q6))/1953125000 -
(2740951021*cos(q4)*sin(q2)*sin(q3)*sin(q6))/15625000000 -
(7618384777*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/125000000000 +
(7618384777*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 -
(7618384777*cos(q3)*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(614890153*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q4))/125000000000 +
(10421867*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2))/1953125000 -
(2740951021*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/15625000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000) +
dq3*((237258851293*cos(q3)*sin(q2))/2000000000000 +
(237258851293*cos(q3)*cos(q4)^2*sin(q2))/2000000000000 +
(7618384777*cos(q3)*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q2))/125000000000 -
(237258851293*cos(q3)*sin(q2)*sin(q4)^2)/2000000000000 +
(4734679849*cos(q2)*cos(q4)*sin(q3))/500000000000 +
(21105437293*cos(q3)*cos(q4)*sin(q2))/62500000000 +
(237258851293*cos(q2)*cos(q4)*sin(q4))/1000000000000 +
(32755927981*cos(q3)*cos(q6)*sin(q2))/250000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +
(32755927981*cos(q2)*cos(q4)^2*cos(q5)*sin(q6))/250000000000 -
(32755927981*cos(q3)*cos(q6)*sin(q2)*sin(q4)^2)/250000000000 -
(32755927981*cos(q2)*cos(q5)*sin(q4)^2*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q5)^2*sin(q2)*sin(q4)^2)/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q4)^2)/125000000000 +
(614890153*cos(q2)*cos(q4)*cos(q6)*sin(q3))/125000000000 +
(2740951021*cos(q3)*cos(q4)*cos(q6)*sin(q2))/15625000000 +
(32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q4)^2*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(614890153*cos(q2)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 -
(2740951021*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/15625000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q4)^2)/125000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/62500000000 -
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/31250000000) -
dq5*((7618384777*cos(q2)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q2))/125000000000 -
```

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(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q2)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(614890153*cos(q4)*sin(q2)*sin(q5)*sin(q6))/125000000000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 +
(614890153*cos(q2)*cos(q3)*sin(q4)*sin(q5)*sin(q6))/125000000000 +
(10421867*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(2740951021*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/15625000000) +
dq2*((237258851293*cos(q2)*sin(q3))/2000000000000 +
(4734679849*cos(q2)*sin(q4))/500000000000 -
(237258851293*cos(q2)*cos(q4)^2*sin(q3))/2000000000000 +
(80248811*cos(q3)^2*cos(q4)*sin(q2))/7812500000 +
(7618384777*cos(q2)*cos(q5)^2*sin(q3))/125000000000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q3))/125000000000 +
(237258851293*cos(q2)*sin(q3)*sin(q4)^2)/2000000000000 +
(80248811*cos(q2)*cos(q3)*sin(q4))/7812500000 +
(4734679849*cos(q3)*cos(q4)*sin(q2))/500000000000 +
(32755927981*cos(q2)*cos(q6)*sin(q3))/250000000000 +
(614890153*cos(q2)*cos(q6)*sin(q4))/125000000000 -
(32755927981*cos(q2)*cos(q4)^2*cos(q6)*sin(q3))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*cos(q6)*sin(q2))/1953125000 +
(32755927981*cos(q2)*cos(q6)*sin(q3)*sin(q4)^2)/250000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q3)*sin(q4)^2)/125000000000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +
(10421867*cos(q2)*cos(q3)*cos(q6)*sin(q4))/1953125000 +
(614890153*cos(q3)*cos(q4)*cos(q6)*sin(q2))/125000000000 +
(614890153*cos(q2)*cos(q4)*cos(q5)*sin(q6))/125000000000 -
(7618384777*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q6))/1953125000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q5))/62500000000 +
(10421867*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +
(237258851293*cos(q3)*cos(q4)*sin(q2)*sin(q3)*sin(q4))/1000000000000 +
(32755927981*cos(q2)*cos(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(614890153*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/125000000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +
(7618384777*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 -
(32755927981*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q4)^2*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/
62500000000 + (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/
31250000000 +
```

$$
\begin{aligned}
&(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 \\
&- (7618384777*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)^2*\sin(q6))/62500000000) + dq4*((80248811*\cos(q2)*\sin(q4))/7812500000 + \\
&(4734679849*\cos(q4)*\sin(q2))/500000000000 - \\
&(21105437293*\sin(q2)*\sin(q3)*\sin(q4))/62500000000 + \\
&(4734679849*\cos(q2)*\cos(q3)*\sin(q4))/500000000000 + \\
&(80248811*\cos(q3)*\cos(q4)*\sin(q2))/7812500000 + (10421867*\cos(q2)*\cos(q6)*\sin(q4))/1953125000 + (614890153*\cos(q4)*\cos(q6)*\sin(q2))/125000000000 + \\
&(614890153*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q4))/125000000000 + \\
&(10421867*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2))/1953125000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q5))/62500000000 + \\
&(10421867*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q6))/1953125000 - \\
&(2740951021*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/15625000000 + \\
&(32755927981*\cos(q2)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 - \\
&(614890153*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 + \\
&(614890153*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q6))/125000000000 - \\
&(7618384777*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q5)*\sin(q6))/250000000000 - \\
&(10421867*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/1953125000 - \\
&(2740951021*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/15625000000 + \\
&(7618384777*\cos(q2)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/62500000000) + \\
&dq1*((4734679849*\cos(q4)*\sin(q3))/500000000000 - (21105437293*\sin(q4))/62500000000 \\
&- (2740951021*\cos(q6)*\sin(q4))/15625000000 + \\
&(21105437293*\cos(q2)^2*\sin(q4))/62500000000 + \\
&(237258851293*\cos(q2)^2*\cos(q4)*\sin(q4))/1000000000000 - \\
&(237258851293*\cos(q3)^2*\cos(q4)*\sin(q4))/1000000000000 + \\
&(2740951021*\cos(q2)^2*\cos(q6)*\sin(q4))/15625000000 + \\
&(80248811*\cos(q3)*\cos(q4)*\sin(q3))/7812500000 + \\
&(614890153*\cos(q4)*\cos(q6)*\sin(q3))/125000000000 - \\
&(2740951021*\cos(q4)*\cos(q5)*\sin(q6))/15625000000 + \\
&(237258851293*\cos(q2)*\cos(q3)*\cos(q4)^2*\sin(q2))/1000000000000 - \\
&(80248811*\cos(q2)^2*\cos(q3)*\cos(q4)*\sin(q3))/7812500000 + \\
&(32755927981*\cos(q2)^2*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(2740951021*\cos(q2)^2*\cos(q4)*\cos(q5)*\sin(q6))/15625000000 - \\
&(32755927981*\cos(q3)^2*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 - \\
&(237258851293*\cos(q2)*\cos(q3)*\sin(q2)*\sin(q4)^2)/1000000000000 + \\
&(237258851293*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\sin(q4))/1000000000000 - \\
&(7618384777*\cos(q2)^2*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 \\
&+ (7618384777*\cos(q2)^2*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q2)^2*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 - \\
&(32755927981*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 - \\
&(32755927981*\cos(q2)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(32755927981*\cos(q3)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(21105437293*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q2))/62500000000 + \\
&(10421867*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 + \\
&(80248811*\cos(q2)*\sin(q2)*\sin(q3)*\sin(q4))/7812500000 - \\
&(614890153*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 - \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4)^2)/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\sin(q2))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q6)^2*\sin(q2))/62500000000 + \\
&(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(7618384777*\cos(q2)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q5)^2*\sin(q2)*\sin(q4)^2)/62500000000 -
\end{aligned}
$$

$$(7618384777*\cos(q2)*\cos(q3)*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q3)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 +$$
$$(2740951021*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2))/15625000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(10421867*\cos(q2)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/1953125000 -$$
$$(7618384777*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 +$$
$$(32755927981*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 -$$
$$(10421867*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 -$$
$$(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 +$$
$$(32755927981*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2))/125000000000 -$$
$$(10421867*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 +$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/62500000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 -$$
$$(2740951021*\cos(q2)*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/15625000000 +$$
$$(10421867*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/1953125000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 +$$
$$(32755927981*\cos(q2)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 -$$
$$(32755927981*\cos(q2)^2*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(10421867*\cos(q2)^2*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 +$$
$$(7618384777*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 -$$
$$(32755927981*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/15625000000)) + ddq6*((7618384777*\cos(q5)*\sin(q2)*\sin(q3))/62500000000 +$$
$$(7618384777*\cos(q2)*\sin(q4)*\sin(q5))/62500000000 +$$
$$(10421867*\cos(q2)*\sin(q4)*\sin(q6))/1953125000 +$$
$$(614890153*\cos(q4)*\sin(q2)*\sin(q6))/125000000000 -$$
$$(10421867*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6))/1953125000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q5))/62500000000 +$$
$$(614890153*\cos(q2)*\cos(q3)*\sin(q4)*\sin(q6))/125000000000 +$$
$$(10421867*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q6))/1953125000 +$$
$$(614890153*\cos(q2)*\cos(q6)*\sin(q3)*\sin(q5))/125000000000 +$$
$$(2740951021*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q5))/15625000000 +$$
$$(32755927981*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3))/250000000000 +$$
$$(32755927981*\cos(q2)*\cos(q6)*\sin(q4)*\sin(q5))/250000000000 +$$
$$(614890153*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4))/125000000000 -$$
$$(2740951021*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q6))/15625000000 -$$
$$(614890153*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6))/125000000000 +$$
$$(32755927981*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q5))/250000000000 +$$
$$(10421867*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4))/1953125000 +$$
$$(2740951021*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3))/15625000000) +$$
$$ddq1*((1915553*\cos(q3))/1953125000 + (21105437293*\cos(q4))/31250000000 +$$
$$(32755927981*\cos(q6))/125000000000 + (2740951021*\cos(q4)*\cos(q6))/7812500000 +$$
$$(4734679849*\sin(q3)*\sin(q4))/250000000000 - (36647684119*\cos(q2)^2)/62500000000 -$$

$$(114870848333*cos(q3)^2)/1000000000000 + (7618384777*cos(q5)^2)/62500000000 +$$
$$(7618384777*cos(q6)^2)/62500000000 - (21105437293*cos(q2)^2*cos(q4))/31250000000 -$$
$$(32755927981*cos(q3)^2*cos(q6))/125000000000 +$$
$$(114870848333*cos(q2)^2*cos(q3)^2)/1000000000000 -$$
$$(237258851293*cos(q2)^2*cos(q4)^2)/1000000000000 -$$
$$(7618384777*cos(q2)^2*cos(q5)^2)/31250000000 +$$
$$(237258851293*cos(q3)^2*cos(q4)^2)/1000000000000 -$$
$$(7618384777*cos(q2)^2*cos(q6)^2)/62500000000 -$$
$$(7618384777*cos(q3)^2*cos(q5)^2)/62500000000 -$$
$$(7618384777*cos(q3)^2*cos(q6)^2)/31250000000 -$$
$$(7618384777*cos(q5)^2*cos(q6)^2)/62500000000 -$$
$$(2740951021*cos(q2)^2*cos(q4)*cos(q6))/7812500000 +$$
$$(10421867*cos(q2)^2*sin(q5)*sin(q6))/976562500 +$$
$$(10421867*cos(q3)^2*sin(q5)*sin(q6))/976562500 +$$
$$(32755927981*cos(q2)^2*cos(q3)^2*cos(q6))/125000000000 -$$
$$(32755927981*cos(q2)^2*cos(q4)^2*cos(q6))/125000000000 +$$
$$(32755927981*cos(q3)^2*cos(q4)^2*cos(q6))/125000000000 -$$
$$(237258851293*cos(q2)^2*cos(q3)^2*cos(q4)^2)/1000000000000 +$$
$$(7618384777*cos(q2)^2*cos(q3)^2*cos(q5)^2)/62500000000 +$$
$$(7618384777*cos(q2)^2*cos(q3)^2*cos(q6)^2)/31250000000 +$$
$$(7618384777*cos(q2)^2*cos(q4)^2*cos(q5)^2)/62500000000 -$$
$$(7618384777*cos(q2)^2*cos(q4)^2*cos(q6)^2)/62500000000 -$$
$$(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2)/62500000000 +$$
$$(7618384777*cos(q2)^2*cos(q5)^2*cos(q6)^2)/31250000000 +$$
$$(7618384777*cos(q3)^2*cos(q4)^2*cos(q6)^2)/62500000000 +$$
$$(7618384777*cos(q3)^2*cos(q5)^2*cos(q6)^2)/62500000000 -$$
$$(8538821*cos(q2)*sin(q2)*sin(q3))/244140625 +$$
$$(80248811*cos(q3)*sin(q3)*sin(q4))/3906250000 +$$
$$(614890153*cos(q6)*sin(q3)*sin(q4))/62500000000 +$$
$$(614890153*cos(q3)*sin(q5)*sin(q6))/62500000000 -$$
$$(2740951021*cos(q5)*sin(q4)*sin(q6))/7812500000 +$$
$$(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)^2)/62500000000 -$$
$$(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q6)^2)/62500000000 -$$
$$(7618384777*cos(q2)^2*cos(q3)^2*cos(q5)^2*cos(q6)^2)/62500000000 -$$
$$(7618384777*cos(q2)^2*cos(q4)^2*cos(q5)^2*cos(q6)^2)/62500000000 +$$
$$(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)^2)/62500000000 -$$
$$(80248811*cos(q2)^2*cos(q3)*sin(q3)*sin(q4))/3906250000 +$$
$$(2740951021*cos(q2)^2*cos(q5)*sin(q4)*sin(q6))/7812500000 -$$
$$(10421867*cos(q2)^2*cos(q3)^2*sin(q5)*sin(q6))/976562500 -$$
$$(32755927981*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q6))/125000000000 +$$
$$(21105437293*cos(q2)*cos(q3)*sin(q2)*sin(q4))/31250000000 -$$
$$(80248811*cos(q2)*cos(q4)*sin(q2)*sin(q3))/3906250000 +$$
$$(10421867*cos(q3)*cos(q6)*sin(q3)*sin(q4))/976562500 +$$
$$(614890153*cos(q4)*cos(q5)*sin(q3)*sin(q6))/62500000000 -$$
$$(10421867*cos(q2)^2*cos(q3)*cos(q6)*sin(q3)*sin(q4))/976562500 +$$
$$(32755927981*cos(q2)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6))/125000000000 -$$
$$(32755927981*cos(q3)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6))/125000000000 -$$
$$(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)^2)/62500000000 +$$
$$(237258851293*cos(q2)*cos(q3)*cos(q4)*sin(q2)*sin(q4))/500000000000 +$$
$$(2740951021*cos(q2)*cos(q3)*cos(q6)*sin(q2)*sin(q4))/7812500000 -$$
$$(10421867*cos(q2)*cos(q4)*cos(q6)*sin(q2)*sin(q3))/976562500 -$$
$$(32755927981*cos(q2)*cos(q3)*cos(q5)*sin(q2)*sin(q6))/125000000000 +$$
$$(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q5))/31250000000 +$$
$$(10421867*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q6))/976562500 -$$
$$(2740951021*cos(q2)*sin(q2)*sin(q3)*sin(q5)*sin(q6))/7812500000 +$$
$$(32755927981*cos(q3)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/125000000000 +$$
$$(32755927981*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6))/125000000000 +$$
$$(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q4))/62500000000 +$$
$$(2740951021*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6))/7812500000 -$$

$$(7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q2)*sin(q6))/31250000000 + (7618384777*cos(q2)*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q5))/31250000000 - (32755927981*cos(q2)*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6))/125000000000 + (10421867*cos(q2)*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q6))/976562500 + (7618384777*cos(q3)*cos(q6)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/31250000000 - (7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)^2*sin(q2)*sin(q4))/31250000000 + (7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q4))/31250000000 + (32755927981*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q6))/62500000000 - (7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q5))/31250000000 - (10421867*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q6))/976562500 - (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q5))/31250000000 + (7618384777*cos(q2)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4)*sin(q6))/31250000000 - (7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4)*sin(q6))/31250000000 - (32755927981*cos(q2)^2*cos(q3)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/125000000000 + (7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q4))/31250000000 + (7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q5))/31250000000 + (7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4)*sin(q6))/31250000000 - (7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q5)*sin(q6))/31250000000 + (7618384777*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2)*sin(q6))/15625000000 - (7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4)*sin(q5))/31250000000 - (7618384777*cos(q2)^2*cos(q3)*cos(q6)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/31250000000 + 4263659402238757/4503599627370496) + ddq3*((359646854253*cos(q2))/1000000000000 + (1915553*cos(q2)*cos(q3))/3906250000 + (32755927981*cos(q2)*cos(q6))/125000000000 - (8538821*sin(q2)*sin(q3))/488281250 - (237258851293*cos(q2)*cos(q4)^2)/1000000000000 - (7618384777*cos(q2)*cos(q5)^2)/62500000000 - (32755927981*cos(q2)*cos(q4)^2*cos(q6))/125000000000 + (7618384777*cos(q2)*cos(q4)^2*cos(q5)^2)/62500000000 - (7618384777*cos(q2)*cos(q4)^2*cos(q6)^2)/62500000000 + (7618384777*cos(q2)*cos(q5)^2*cos(q6)^2)/62500000000 + (4734679849*cos(q2)*sin(q3)*sin(q4))/500000000000 + (21105437293*cos(q3)*sin(q2)*sin(q4))/62500000000 - (80248811*cos(q4)*sin(q2)*sin(q3))/7812500000 + (10421867*cos(q2)*sin(q5)*sin(q6))/976562500 - (7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)^2)/62500000000 + (237258851293*cos(q3)*cos(q4)*sin(q2)*sin(q4))/1000000000000 + (614890153*cos(q2)*cos(q6)*sin(q3)*sin(q4))/125000000000 + (2740951021*cos(q3)*cos(q6)*sin(q2)*sin(q4))/15625000000 - (10421867*cos(q4)*cos(q6)*sin(q2)*sin(q3))/1953125000 + (614890153*cos(q2)*cos(q3)*sin(q5)*sin(q6))/125000000000 - (32755927981*cos(q3)*cos(q5)*sin(q2)*sin(q6))/250000000000 - (2740951021*sin(q2)*sin(q3)*sin(q5)*sin(q6))/15625000000 - (7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2)*sin(q4))/62500000000 + (7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q4))/62500000000 + (32755927981*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q6))/125000000000 + (32755927981*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q4))/125000000000 + (614890153*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q6))/125000000000 + (2740951021*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6))/15625000000 + (32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q4)*sin(q6))/125000000000 - (7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q2)*sin(q6))/62500000000 + (7618384777*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q5))/62500000000 - (32755927981*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6))/250000000000 + (10421867*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q6))/1953125000 + (7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q4))/62500000000 + (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q4)*sin(q6))/31250000000 - (7618384777*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q5)*sin(q6))/62500000000 +$$

$$
\begin{aligned}
&(7618384777*\cos(q3)*\cos(q4)\hat{}2*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q6))/31250000000 - \\
&(7618384777*\cos(q5)*\cos(q6)\hat{}2*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000) + \\
&ddq5*((7618384777*\cos(q2)*\cos(q4))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q6)\hat{}2)/62500000000 - \\
&(7618384777*\cos(q3)*\sin(q2)*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q6)\hat{}2*\sin(q2)*\sin(q4))/62500000000 + \\
&(614890153*\cos(q2)*\cos(q5)*\sin(q3)*\sin(q6))/125000000000 + \\
&(2740951021*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q6))/15625000000 + \\
&(10421867*\cos(q2)*\cos(q4)*\sin(q5)*\sin(q6))/1953125000 + \\
&(32755927981*\cos(q2)*\cos(q5)*\sin(q4)*\sin(q6))/250000000000 - \\
&(32755927981*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 - \\
&(614890153*\sin(q2)*\sin(q4)*\sin(q5)*\sin(q6))/125000000000 + \\
&(614890153*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q5)*\sin(q6))/125000000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q4)*\sin(q6))/62500000000 - \\
&(10421867*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q5)*\sin(q6))/1953125000 - \\
&(2740951021*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6))/15625000000 - \\
&(7618384777*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q6))/62500000000) + \\
&dq2*(dq4*((237258851293*\cos(q2)*\sin(q3))/2000000000000 + \\
&(4734679849*\cos(q2)*\sin(q4))/500000000000 - \\
&(237258851293*\cos(q2)*\cos(q4)\hat{}2*\sin(q3))/2000000000000 + \\
&(80248811*\cos(q3)\hat{}2*\cos(q4)*\sin(q2))/7812500000 + \\
&(7618384777*\cos(q2)*\cos(q5)\hat{}2*\sin(q3))/125000000000 + \\
&(7618384777*\cos(q2)*\cos(q6)\hat{}2*\sin(q3))/125000000000 + \\
&(237258851293*\cos(q2)*\sin(q3)*\sin(q4)\hat{}2)/2000000000000 + \\
&(80248811*\cos(q2)*\cos(q3)*\sin(q4))/7812500000 + \\
&(4734679849*\cos(q3)*\cos(q4)*\sin(q2))/500000000000 + \\
&(32755927981*\cos(q2)*\cos(q6)*\sin(q3))/250000000000 + \\
&(614890153*\cos(q2)*\cos(q6)*\sin(q4))/125000000000 - \\
&(32755927981*\cos(q2)*\cos(q4)\hat{}2*\cos(q6)*\sin(q3))/250000000000 + \\
&(10421867*\cos(q3)\hat{}2*\cos(q4)*\cos(q6)*\sin(q2))/1953125000 + \\
&(32755927981*\cos(q2)*\cos(q6)*\sin(q3)*\sin(q4)\hat{}2)/250000000000 + \\
&(7618384777*\cos(q2)*\cos(q4)\hat{}2*\cos(q5)\hat{}2*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q4)\hat{}2*\cos(q6)\hat{}2*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q5)\hat{}2*\cos(q6)\hat{}2*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q5)\hat{}2*\sin(q3)*\sin(q4)\hat{}2)/125000000000 + \\
&(7618384777*\cos(q2)*\cos(q6)\hat{}2*\sin(q3)*\sin(q4)\hat{}2)/125000000000 + \\
&(10421867*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q4))/1953125000 + \\
&(614890153*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2))/125000000000 + \\
&(614890153*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q6))/125000000000 - \\
&(7618384777*\cos(q3)\hat{}2*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q3)\hat{}2*\cos(q4)*\sin(q2)*\sin(q5)*\sin(q6))/250000000000 - \\
&(10421867*\cos(q3)\hat{}2*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q5))/62500000000 + \\
&(10421867*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q6))/1953125000 - \\
&(7618384777*\cos(q2)*\cos(q4)\hat{}2*\cos(q5)\hat{}2*\cos(q6)\hat{}2*\sin(q3))/125000000000 + \\
&(237258851293*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q4))/1000000000000 + \\
&(32755927981*\cos(q2)*\cos(q3)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 - \\
&(614890153*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 + \\
&(7618384777*\cos(q2)*\cos(q5)\hat{}2*\cos(q6)\hat{}2*\sin(q3)*\sin(q4)\hat{}2)/125000000000 + \\
&(7618384777*\cos(q3)\hat{}2*\cos(q5)*\cos(q6)\hat{}2*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/125000000000 + \\
&(32755927981*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)\hat{}2*\sin(q5))/62500000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)\hat{}2*\sin(q2)*\sin(q3)*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q6)\hat{}2*\sin(q2)*\sin(q3)*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)\hat{}2*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 +
\end{aligned}
$$

$$(7618384777 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q5) \cdot \sin(q6))/62500000000 -$$
$$(32755927981 \cdot \cos(q3) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4)^2 \cdot \sin(q6))/250000000000 +$$
$$(7618384777 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/$$
$$62500000000 + (7618384777 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q6))/$$
$$31250000000 +$$
$$(7618384777 \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q6))/62500000000$$
$$- (7618384777 \cdot \cos(q3) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4)^2 \cdot \sin(q6))/$$
$$62500000000) + dq2 \cdot ((133244479 \cdot \sin(q2))/6250000000 -$$
$$(1915553 \cdot \cos(q2) \cdot \sin(q3))/3906250000 + (8538821 \cdot \cos(q3) \cdot \sin(q2))/488281250 -$$
$$(80248811 \cdot \cos(q2) \cdot \sin(q4))/7812500000 + (4734679849 \cdot \cos(q4) \cdot \sin(q2))/500000000000 +$$
$$(21105437293 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/62500000000 +$$
$$(80248811 \cdot \cos(q2) \cdot \cos(q3)^2 \cdot \sin(q4))/3906250000 +$$
$$(114870848333 \cdot \cos(q2) \cdot \cos(q3) \cdot \sin(q3))/1000000000000 +$$
$$(4734679849 \cdot \cos(q2) \cdot \cos(q3) \cdot \sin(q4))/500000000000 +$$
$$(80248811 \cdot \cos(q3) \cdot \cos(q4) \cdot \sin(q2))/7812500000 - (10421867 \cdot \cos(q2) \cdot \cos(q6) \cdot \sin(q4))/$$
$$1953125000 + (614890153 \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2))/125000000000 -$$
$$(237258851293 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \sin(q3))/1000000000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q5)^2 \cdot \sin(q3))/62500000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q6)^2 \cdot \sin(q3))/31250000000 +$$
$$(10421867 \cdot \cos(q2) \cdot \cos(q3)^2 \cdot \cos(q6) \cdot \sin(q4))/976562500 +$$
$$(32755927981 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q6) \cdot \sin(q3))/125000000000 +$$
$$(614890153 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q6) \cdot \sin(q4))/125000000000 +$$
$$(10421867 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2))/1953125000 -$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q5))/62500000000 -$$
$$(10421867 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q6))/1953125000 +$$
$$(237258851293 \cdot \cos(q4) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/1000000000000 +$$
$$(2740951021 \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/15625000000 -$$
$$(614890153 \cdot \cos(q2) \cdot \sin(q3) \cdot \sin(q5) \cdot \sin(q6))/125000000000 +$$
$$(2740951021 \cdot \cos(q3) \cdot \sin(q2) \cdot \sin(q5) \cdot \sin(q6))/15625000000 -$$
$$(32755927981 \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q6))/250000000000 -$$
$$(32755927981 \cdot \cos(q2) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/250000000000 -$$
$$(614890153 \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/125000000000 -$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/62500000000 +$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/62500000000 +$$
$$(32755927981 \cdot \cos(q2) \cdot \cos(q3)^2 \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/125000000000 +$$
$$(32755927981 \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q6))/125000000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \sin(q3))/62500000000 -$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q6)^2 \cdot \sin(q3))/62500000000 -$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q3))/62500000000 +$$
$$(614890153 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q6))/125000000000 -$$
$$(10421867 \cdot \cos(q2) \cdot \cos(q3) \cdot \sin(q3) \cdot \sin(q5) \cdot \sin(q6))/976562500 -$$
$$(7618384777 \cdot \cos(q3) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5))/62500000000 +$$
$$(32755927981 \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/125000000000 +$$
$$(32755927981 \cdot \cos(q3) \cdot \cos(q4) \cdot \sin(q2) \cdot \sin(q5) \cdot \sin(q6))/250000000000 -$$
$$(10421867 \cdot \cos(q3) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/1953125000 +$$
$$(2740951021 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q6))/15625000000 -$$
$$(7618384777 \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q6))/62500000000 -$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q6) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/62500000000 -$$
$$(32755927981 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q6) \cdot \sin(q3))/125000000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q5))/31250000000 +$$
$$(10421867 \cdot \cos(q2) \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q6))/976562500 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q5))/62500000000 -$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q5))/31250000000 +$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/62500000000 -$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q3))/62500000000 +$$
$$(7618384777 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q5) \cdot \sin(q6))/62500000000 +$$
$$(7618384777 \cdot \cos(q3) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5))/62500000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3)^2 \cdot \cos(q6) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/31250000000 +$$
$$(7618384777 \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q6))/31250000000 +$$

(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000
+ (7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/
31250000000) - dq5*((7618384777*cos(q4)*sin(q2))/125000000000 +
(7618384777*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 +
(7618384777*cos(q2)*cos(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 +
(32755927981*cos(q2)*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(614890153*cos(q5)*sin(q2)*sin(q3)*sin(q6))/125000000000 +
(614890153*cos(q2)*sin(q4)*sin(q5)*sin(q6))/125000000000 +
(32755927981*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 -
(32755927981*cos(q2)*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/1953125000 +
(10421867*cos(q2)*cos(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(614890153*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/125000000000 +
(7618384777*cos(q2)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/
62500000000 +
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000
- (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/
62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/
62500000000) + dq1*((36647684119*cos(q2)*sin(q2))/62500000000 -
(8538821*cos(q2)^2*sin(q3))/488281250 + (8538821*sin(q2)^2*sin(q3))/488281250 -
(114870848333*cos(q2)*cos(q3)^2*sin(q2))/1000000000000 +
(237258851293*cos(q2)*cos(q4)^2*sin(q2))/1000000000000 +
(7618384777*cos(q2)*cos(q5)^2*sin(q2))/31250000000 +
(21105437293*cos(q2)^2*cos(q3)*sin(q4))/62500000000 -
(80248811*cos(q2)^2*cos(q4)*sin(q3))/7812500000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q2))/62500000000 -
(21105437293*cos(q3)*sin(q2)^2*sin(q4))/62500000000 +
(80248811*cos(q4)*sin(q2)^2*sin(q3))/7812500000 +
(21105437293*cos(q2)*cos(q4)*sin(q2))/31250000000 -
(32755927981*cos(q2)*cos(q3)^2*cos(q6)*sin(q2))/125000000000 +
(237258851293*cos(q2)^2*cos(q3)*cos(q4)*sin(q4))/1000000000000 +
(32755927981*cos(q2)*cos(q4)^2*cos(q6)*sin(q2))/125000000000 +
(2740951021*cos(q2)^2*cos(q3)*cos(q6)*sin(q4))/15625000000 -
(10421867*cos(q2)^2*cos(q4)*cos(q6)*sin(q3))/1953125000 -
(32755927981*cos(q2)^2*cos(q3)*cos(q5)*sin(q6))/250000000000 -

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(237258851293*cos(q3)*cos(q4)*sin(q2)^2*sin(q4))/1000000000000 -
(2740951021*cos(q3)*cos(q6)*sin(q2)^2*sin(q4))/15625000000 +
(10421867*cos(q4)*cos(q6)*sin(q2)^2*sin(q3))/1953125000 +
(32755927981*cos(q3)*cos(q5)*sin(q2)^2*sin(q6))/250000000000 -
(2740951021*cos(q2)^2*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(2740951021*sin(q2)^2*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(237258851293*cos(q2)*cos(q3)^2*cos(q4)^2*sin(q2))/1000000000000 -
(7618384777*cos(q2)*cos(q3)^2*cos(q5)^2*sin(q2))/62500000000 -
(7618384777*cos(q2)*cos(q3)^2*cos(q6)^2*sin(q2))/31250000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*sin(q2))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q6)^2*sin(q2))/62500000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q2))/31250000000 +
(2740951021*cos(q2)*cos(q4)*cos(q6)*sin(q2))/7812500000 -
(10421867*cos(q2)*sin(q2)*sin(q5)*sin(q6))/976562500 -
(32755927981*cos(q3)*cos(q4)*cos(q6)*sin(q2)^2*sin(q4))/125000000000 -
(2740951021*cos(q3)*cos(q4)*cos(q5)*sin(q2)^2*sin(q6))/15625000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q2)^2*sin(q6))/62500000000 +
(10421867*cos(q2)*cos(q3)^2*sin(q2)*sin(q5)*sin(q6))/976562500 +
(7618384777*cos(q2)^2*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(32755927981*cos(q2)^2*cos(q4)*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q2)^2*cos(q5)*sin(q3)*sin(q4)*sin(q6))/1953125000 -
(7618384777*cos(q5)*sin(q2)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q4)*sin(q2)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q5)*sin(q2)^2*sin(q3)*sin(q4)*sin(q6))/1953125000 +
(32755927981*cos(q2)*cos(q3)^2*cos(q4)^2*cos(q6)*sin(q2))/125000000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +
(32755927981*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q5)*sin(q6))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2)^2*sin(q4))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)^2*sin(q4))/62500000000 -
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)^2*sin(q6))/125000000000 -
(7618384777*cos(q2)*cos(q3)^2*cos(q4)^2*cos(q5)^2*sin(q2))/62500000000 +
(7618384777*cos(q2)*cos(q3)^2*cos(q4)^2*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q2)*cos(q3)^2*cos(q5)^2*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/62500000000 +
(80248811*cos(q2)*cos(q3)*sin(q2)*sin(q3)*sin(q4))/3906250000 -
(2740951021*cos(q2)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/7812500000 +
(32755927981*cos(q2)^2*cos(q3)*cos(q4)*cos(q6)*sin(q4))/125000000000 +
(2740951021*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*sin(q6))/15625000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/31250000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2)^2*sin(q6))/31250000000 -
(7618384777*cos(q2)^2*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q2)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 +
(10421867*cos(q2)*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/976562500 -
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2)^2*sin(q4))/62500000000 +
(7618384777*cos(q2)*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/62500000000 -
(7618384777*cos(q2)^2*cos(q4)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q6)*sin(q2)^2*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/31250000000 +
(10421867*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/976562500 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/31250000000 +
(32755927981*cos(q2)*cos(q3)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/125000000000
- (32755927981*cos(q2)*cos(q3)^2*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/
125000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/
31250000000 -
```

$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/$$
$$31250000000 -$$
$$(7618384777*\cos(q2)*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/$$
$$31250000000) - dq3*((359646854253*\sin(q2))/2000000000000 +$$
$$(1915553*\cos(q3)*\sin(q2))/3906250000 + (32755927981*\cos(q6)*\sin(q2))/250000000000 -$$
$$(114870848333*\cos(q3)^2*\sin(q2))/2000000000000 -$$
$$(237258851293*\cos(q4)^2*\sin(q2))/2000000000000 -$$
$$(7618384777*\cos(q5)^2*\sin(q2))/125000000000 +$$
$$(114870848333*\sin(q2)*\sin(q3)^2)/2000000000000 +$$
$$(4734679849*\sin(q2)*\sin(q3)*\sin(q4))/500000000000 +$$
$$(10421867*\sin(q2)*\sin(q5)*\sin(q6))/1953125000 -$$
$$(32755927981*\cos(q3)^2*\cos(q6)*\sin(q2))/250000000000 -$$
$$(32755927981*\cos(q4)^2*\cos(q6)*\sin(q2))/250000000000 +$$
$$(32755927981*\cos(q6)*\sin(q2)*\sin(q3)^2)/250000000000 +$$
$$(237258851293*\cos(q3)^2*\cos(q4)^2*\sin(q2))/2000000000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q5)^2*\sin(q2))/125000000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q6)^2*\sin(q2))/62500000000 +$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\sin(q2))/125000000000 -$$
$$(7618384777*\cos(q4)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000 -$$
$$(237258851293*\cos(q4)^2*\sin(q2)*\sin(q3)^2)/2000000000000 +$$
$$(7618384777*\cos(q5)^2*\sin(q2)*\sin(q3)^2)/125000000000 +$$
$$(7618384777*\cos(q6)^2*\sin(q2)*\sin(q3)^2)/62500000000 +$$
$$(10421867*\cos(q3)^2*\sin(q2)*\sin(q5)*\sin(q6))/1953125000 -$$
$$(10421867*\sin(q2)*\sin(q3)^2*\sin(q5)*\sin(q6))/1953125000 +$$
$$(32755927981*\cos(q3)^2*\cos(q4)^2*\cos(q6)*\sin(q2))/250000000000 -$$
$$(32755927981*\cos(q4)^2*\cos(q6)*\sin(q2)*\sin(q3)^2)/250000000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q3)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000 -$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000$$
$$ + (80248811*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q4))/3906250000 +$$
$$(614890153*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/125000000000 +$$
$$(614890153*\cos(q3)*\sin(q2)*\sin(q5)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\sin(q2)*\sin(q3)^2)/125000000000 -$$
$$(7618384777*\cos(q4)^2*\cos(q6)^2*\sin(q2)*\sin(q3)^2)/125000000000 -$$
$$(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q3)^2)/125000000000 +$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000 -$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q3)^2)/125000000000 +$$
$$(10421867*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/976562500 +$$
$$(614890153*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/125000000000 +$$
$$(32755927981*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q5))/31250000000 +$$
$$(10421867*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/976562500 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000 +$$
$$(32755927981*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/125000000000 -$$
$$(32755927981*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/250000000000 +$$
$$(32755927981*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)^2*\sin(q4)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/31250000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/31250000000$$
$$ - (7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/$$
$$62500000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)^2*\sin(q4)*\sin(q6))/62500000000)$$
$$ + dq6*((7618384777*\cos(q2)*\cos(q5)*\sin(q3))/125000000000 -$$
$$(7618384777*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 +$$
$$(614890153*\cos(q2)*\cos(q4)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q5)*\cos(q6)^2*\sin(q3))/125000000000 -$$
$$(7618384777*\cos(q2)*\cos(q5)*\sin(q3)*\sin(q6)^2)/125000000000 -$$
$$(10421867*\cos(q3)^2*\sin(q2)*\sin(q4)*\sin(q6))/1953125000 -$$

$$
\begin{aligned}
&(7618384777*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 + \\
&(7618384777*\sin(q2)*\sin(q4)*\sin(q5)*\sin(q6)^2)/125000000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q5))/125000000000 + \\
&(10421867*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q6))/1953125000 + \\
&(32755927981*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q3))/250000000000 + \\
&(614890153*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q4))/125000000000 - \\
&(32755927981*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 - \\
&(614890153*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 - \\
&(614890153*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5))/125000000000 - \\
&(32755927981*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q5))/250000000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q5)*\sin(q6)^2)/125000000000 + \\
&(32755927981*\cos(q3)*\cos(q4)^2*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 + \\
&(32755927981*\cos(q3)^2*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q5))/250000000000 - \\
&(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)*\cos(q6)^2*\sin(q3))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)*\sin(q3)*\sin(q6)^2)/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 - \\
&(7618384777*\cos(q3)^2*\sin(q2)*\sin(q4)*\sin(q5)*\sin(q6)^2)/62500000000 + \\
&(10421867*\cos(q2)*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q4))/1953125000 + \\
&(614890153*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2))/125000000000 + \\
&(32755927981*\cos(q2)*\cos(q4)*\sin(q3)*\sin(q4)*\sin(q6))/250000000000 - \\
&(10421867*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5))/1953125000 - \\
&(7618384777*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/31250000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q5))/125000000000 - \\
&(32755927981*\cos(q2)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q3))/250000000000 + \\
&(10421867*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2))/1953125000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/ \\
&62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/250000000000 \\
&+ (7618384777*\cos(q2)*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 \\
&+ (7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q4))/ \\
&62500000000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)^2*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/62500000000 \\
&+ (7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/ \\
&31250000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q6)^2)/ \\
&62500000000)) + ddq4*((237258851293*\sin(q2)*\sin(q3))/1000000000000 - \\
&(80248811*\cos(q2)*\cos(q4))/7812500000 + (4734679849*\sin(q2)*\sin(q4))/500000000000 + \\
&(7618384777*\cos(q5)^2*\sin(q2)*\sin(q3))/62500000000 + \\
&(7618384777*\cos(q6)^2*\sin(q2)*\sin(q3))/62500000000 - \\
&(4734679849*\cos(q2)*\cos(q3)*\cos(q4))/500000000000 - \\
&(10421867*\cos(q2)*\cos(q4)*\cos(q6))/1953125000 + (80248811*\cos(q3)*\sin(q2)*\sin(q4))/ \\
&7812500000 + (21105437293*\cos(q4)*\sin(q2)*\sin(q3))/62500000000 + \\
&(32755927981*\cos(q6)*\sin(q2)*\sin(q3))/125000000000 + \\
&(614890153*\cos(q6)*\sin(q2)*\sin(q4))/125000000000 - \\
&(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q3))/62500000000 - \\
&(614890153*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6))/125000000000 + \\
&(10421867*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4))/1953125000 + \\
&(2740951021*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q3))/15625000000 + \\
&(7618384777*\cos(q2)*\cos(q5)*\sin(q4)*\sin(q5))/62500000000 - \\
&(32755927981*\cos(q2)*\cos(q4)*\sin(q5)*\sin(q6))/250000000000 + \\
&(10421867*\cos(q2)*\cos(q5)*\sin(q4)*\sin(q6))/1953125000 + \\
&(614890153*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q6))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q5)*\cos(q6)^2*\sin(q4)*\sin(q5))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q5))/62500000000 + \\
&(614890153*\cos(q2)*\cos(q3)*\cos(q5)*\sin(q4)*\sin(q6))/125000000000 +
\end{aligned}
$$

(10421867*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6))/1953125000 -
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q5)*sin(q6))/62500000000 +
(32755927981*cos(q3)*sin(q2)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(2740951021*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q6))/15625000000 +
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q5))/62500000000) -
dq5*(dq1*((7618384777*cos(q5)*sin(q5))/62500000000 -
(2740951021*sin(q4)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q2)^2*cos(q5)*sin(q5))/31250000000 -
(10421867*cos(q2)^2*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q3)^2*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q3)^2*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(614890153*cos(q3)*cos(q5)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)*sin(q3)*sin(q5)^2)/62500000000 +
(2740951021*cos(q2)^2*sin(q4)*sin(q5)*sin(q6))/15625000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q5)*sin(q5))/62500000000 +
(10421867*cos(q2)^2*cos(q3)^2*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q2)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q2)^2*cos(q5)*cos(q6)^2*sin(q5))/31250000000 +
(7618384777*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(614890153*cos(q4)*sin(q3)*sin(q5)*sin(q6))/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q2)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(32755927981*cos(q3)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q2)*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*sin(q3)*sin(q5)^2)/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q2)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(32755927981*cos(q2)*cos(q3)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(2740951021*cos(q2)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/15625000000 +
(10421867*cos(q3)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q2)^2*cos(q3)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/62500000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 +
(2740951021*cos(q2)*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/15625000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/62500000000 +
(10421867*cos(q2)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 -
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)^2*sin(q2)*sin(q5)*sin(q6))/125000000000 -
(10421867*cos(q2)^2*cos(q3)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000 +
(32755927981*cos(q2)^2*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)^2*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/
62500000000 - (7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/
31250000000 + (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/

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62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q5)*sin(q6))/31250000000
+ (7618384777*cos(q2)^2*cos(q3)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/
62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/
31250000000)
  + dq4*((7618384777*cos(q2)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q2)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(614890153*cos(q4)*sin(q2)*sin(q5)*sin(q6))/125000000000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 +
(614890153*cos(q2)*cos(q3)*sin(q4)*sin(q5)*sin(q6))/125000000000 +
(10421867*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(2740951021*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/15625000000) +
dq3*((7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q2)*cos(q5)*sin(q6))/1953125000 -
(7618384777*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(614890153*cos(q2)*cos(q3)*cos(q5)*sin(q6))/125000000000 +
(2740951021*cos(q5)*sin(q2)*sin(q3)*sin(q6))/15625000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 +
(614890153*cos(q2)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/125000000000 +
(2740951021*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/15625000000 +
(32755927981*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(32755927981*cos(q2)*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000)
+ dq2*((7618384777*cos(q4)*sin(q2))/125000000000 +
(7618384777*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 +
(7618384777*cos(q2)*cos(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)^2)/62500000000 +
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(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 +
(32755927981*cos(q2)*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(614890153*cos(q5)*sin(q2)*sin(q3)*sin(q6))/125000000000 +
(614890153*cos(q2)*sin(q4)*sin(q5)*sin(q6))/125000000000 +
(32755927981*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 -
(32755927981*cos(q2)*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/1953125000 +
(10421867*cos(q2)*cos(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(614890153*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/125000000000 +
(7618384777*cos(q2)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/
62500000000 +
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000
- (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/
62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/
62500000000) + dq5*((614890153*cos(q2)*sin(q3)*sin(q5)*sin(q6))/125000000000 -
(10421867*cos(q2)*cos(q4)*cos(q5)*sin(q6))/1953125000 +
(2740951021*cos(q3)*sin(q2)*sin(q5)*sin(q6))/15625000000 +
(32755927981*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(32755927981*cos(q2)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(614890153*cos(q5)*sin(q2)*sin(q4)*sin(q6))/125000000000 -
(614890153*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q6))/125000000000 +
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/1953125000 +
(2740951021*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/15625000000 +
(7618384777*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000) -
dq6*((7618384777*cos(q2)*cos(q5)*sin(q4))/125000000000 -
(7618384777*sin(q2)*sin(q3)*sin(q5))/125000000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q5)*sin(q4)*sin(q6)^2)/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/125000000000 +
(7618384777*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2))/125000000000 +
(614890153*cos(q2)*cos(q5)*cos(q6)*sin(q3))/125000000000 +
(2740951021*cos(q3)*cos(q5)*cos(q6)*sin(q2))/15625000000 +
(10421867*cos(q2)*cos(q4)*cos(q6)*sin(q5))/1953125000 +
(32755927981*cos(q2)*cos(q5)*cos(q6)*sin(q4))/250000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q6))/62500000000 -
(32755927981*cos(q6)*sin(q2)*sin(q3)*sin(q5))/250000000000 -
(614890153*cos(q6)*sin(q2)*sin(q4)*sin(q5))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6)^2)/125000000000 +
(614890153*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q5))/125000000000 +
(32755927981*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2))/250000000000 -
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(10421867*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q5))/1953125000 -
(2740951021*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/15625000000 -
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2))/125000000000)) -
ddq2*((133244479*cos(q2))/6250000000 + (8538821*cos(q2)*cos(q3))/488281250 +
(4734679849*cos(q2)*cos(q4))/500000000000 + (1915553*sin(q2)*sin(q3))/3906250000 +
(80248811*sin(q2)*sin(q4))/7812500000 -
(80248811*cos(q3)^2*sin(q2)*sin(q4))/3906250000 +
(80248811*cos(q2)*cos(q3)*cos(q4))/7812500000 +
(614890153*cos(q2)*cos(q4)*cos(q6))/125000000000 -
(114870848333*cos(q3)*sin(q2)*sin(q3))/1000000000000 +
(21105437293*cos(q2)*sin(q3)*sin(q4))/62500000000 -
(4734679849*cos(q3)*sin(q2)*sin(q4))/500000000000 +
(10421867*cos(q6)*sin(q2)*sin(q4))/1953125000 +
(237258851293*cos(q3)*cos(q4)^2*sin(q2)*sin(q3))/1000000000000 -
(7618384777*cos(q3)*cos(q5)^2*sin(q2)*sin(q3))/62500000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q3))/31250000000 -
(10421867*cos(q3)^2*cos(q6)*sin(q2)*sin(q4))/976562500 +
(10421867*cos(q2)*cos(q3)*cos(q4)*cos(q6))/1953125000 +
(237258851293*cos(q2)*cos(q4)*sin(q3)*sin(q4))/1000000000000 -
(32755927981*cos(q3)*cos(q6)*sin(q2)*sin(q3))/125000000000 +
(2740951021*cos(q2)*cos(q6)*sin(q3)*sin(q4))/15625000000 -
(614890153*cos(q3)*cos(q6)*sin(q2)*sin(q4))/125000000000 +
(2740951021*cos(q2)*cos(q3)*sin(q5)*sin(q6))/15625000000 -
(32755927981*cos(q2)*cos(q5)*sin(q3)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q5)*sin(q2)*sin(q5))/62500000000 -
(614890153*cos(q2)*cos(q5)*sin(q4)*sin(q6))/125000000000 +
(10421867*cos(q4)*cos(q5)*sin(q2)*sin(q6))/1953125000 +
(614890153*sin(q2)*sin(q3)*sin(q5)*sin(q6))/125000000000 +
(32755927981*sin(q2)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q3))/125000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q3)*sin(q4))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*sin(q2)*sin(q5))/31250000000 +
(32755927981*cos(q2)*cos(q4)^2*cos(q5)*sin(q3)*sin(q6))/125000000000 -
(10421867*cos(q3)^2*cos(q4)*cos(q5)*sin(q2)*sin(q6))/976562500 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q5))/62500000000 -
(32755927981*cos(q3)^2*sin(q2)*sin(q4)*sin(q5)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q2)*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q2)*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3))/62500000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q3)*sin(q4))/125000000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q2)*cos(q3)*cos(q5)*sin(q4)*sin(q6))/1953125000
 + (2740951021*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q6))/15625000000 -
(614890153*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6))/125000000000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q3)*sin(q6))/62500000000 +
(10421867*cos(q3)*sin(q2)*sin(q3)*sin(q5)*sin(q6))/976562500 +
(7618384777*cos(q6)*sin(q2)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q5))/31250000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3))/62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)^2*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q3)*sin(q6))/31250000000 -
(7618384777*cos(q3)^2*cos(q6)*sin(q2)*sin(q4)*sin(q5)*sin(q6))/31250000000 -
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q6))/125000000000
 - (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q6))/
```

31250000000) + dq1*(dq6*((32755927981*cos(q3)^2*sin(q6))/250000000000 - (2740951021*cos(q4)*sin(q6))/15625000000 - (7618384777*cos(q6)*sin(q6))/62500000000 - (32755927981*sin(q6))/250000000000 - (614890153*sin(q3)*sin(q4)*sin(q6))/125000000000 + (2740951021*cos(q2)^2*cos(q4)*sin(q6))/15625000000 + (10421867*cos(q2)^2*cos(q6)*sin(q5))/1953125000 + (7618384777*cos(q2)^2*cos(q6)*sin(q6))/62500000000 + (10421867*cos(q3)^2*cos(q6)*sin(q5))/1953125000 + (7618384777*cos(q3)^2*cos(q6)*sin(q6))/31250000000 + (7618384777*cos(q5)^2*cos(q6)*sin(q6))/62500000000 - (32755927981*cos(q2)^2*cos(q3)^2*sin(q6))/250000000000 + (32755927981*cos(q2)^2*cos(q4)^2*sin(q6))/250000000000 - (32755927981*cos(q3)^2*cos(q4)^2*sin(q6))/250000000000 + (614890153*cos(q3)*cos(q6)*sin(q5))/125000000000 - (2740951021*cos(q5)*cos(q6)*sin(q4))/15625000000 + (2740951021*cos(q2)^2*cos(q5)*cos(q6)*sin(q4))/15625000000 - (10421867*cos(q2)^2*cos(q3)^2*cos(q6)*sin(q5))/1953125000 - (7618384777*cos(q2)^2*cos(q3)^2*cos(q6)*sin(q6))/31250000000 + (7618384777*cos(q2)^2*cos(q4)^2*cos(q6)*sin(q6))/62500000000 - (7618384777*cos(q2)^2*cos(q5)^2*cos(q6)*sin(q6))/31250000000 - (7618384777*cos(q3)^2*cos(q4)^2*cos(q6)*sin(q6))/62500000000 - (7618384777*cos(q3)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 + (614890153*cos(q4)*cos(q5)*cos(q6)*sin(q3))/125000000000 + (32755927981*cos(q2)^2*cos(q3)^2*cos(q4)^2*sin(q6))/250000000000 - (10421867*cos(q3)*sin(q3)*sin(q4)*sin(q6))/1953125000 + (7618384777*cos(q2)*cos(q3)*cos(q5)*sin(q2)*sin(q6)^2)/62500000000 + (10421867*cos(q2)^2*cos(q3)*sin(q3)*sin(q4)*sin(q6))/1953125000 + (7618384777*cos(q3)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 - (7618384777*cos(q3)*sin(q3)*sin(q4)*sin(q5)*sin(q6)^2)/62500000000 + (7618384777*cos(q2)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 - (7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 - (7618384777*cos(q2)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 + (7618384777*cos(q3)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 - (32755927981*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q2))/250000000000 + (10421867*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/1953125000 + (7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q6)*sin(q6))/62500000000 + (7618384777*cos(q2)^2*cos(q3)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 + (7618384777*cos(q2)^2*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 - (7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 - (2740951021*cos(q2)*cos(q3)*sin(q2)*sin(q4)*sin(q6))/15625000000 + (10421867*cos(q2)*cos(q4)*sin(q2)*sin(q3)*sin(q6))/1953125000 - (2740951021*cos(q2)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/15625000000 + (32755927981*cos(q3)*cos(q6)*sin(q3)*sin(q4)*sin(q5))/250000000000 - (7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)^2*sin(q2))/62500000000 + (32755927981*cos(q2)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 - (32755927981*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 + (7618384777*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2))/31250000000 + (32755927981*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 - (7618384777*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q6)^2)/31250000000 - (7618384777*cos(q2)^2*cos(q3)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 + (7618384777*cos(q2)^2*cos(q3)*sin(q3)*sin(q4)*sin(q5)*sin(q6)^2)/62500000000 + (2740951021*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2))/15625000000 + (7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 - (32755927981*cos(q2)*cos(q3)*cos(q4)*sin(q2)*sin(q4)*sin(q6))/125000000000 - (32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/250000000000 + (10421867*cos(q2)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/1953125000 - (7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 + (32755927981*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2))/125000000000 - (10421867*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/1953125000 +

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(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(32755927981*cos(q2)^2*cos(q3)*cos(q6)*sin(q3)*sin(q4)*sin(q5))/250000000000 +
(7618384777*cos(q2)*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/62500000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/31250000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/31250000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/
31250000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)*sin(q2)*sin(q4)*sin(q6))/
31250000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/
31250000000) - dq5*((7618384777*cos(q5)*sin(q5))/62500000000 -
(2740951021*sin(q4)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q2)^2*cos(q5)*sin(q5))/31250000000 -
(10421867*cos(q2)^2*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q3)^2*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q3)^2*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(614890153*cos(q3)*cos(q5)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)*sin(q3)*sin(q5)^2)/62500000000 +
(2740951021*cos(q2)^2*sin(q4)*sin(q5)*sin(q6))/15625000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q5)*sin(q5))/62500000000 +
(10421867*cos(q2)^2*cos(q3)^2*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q2)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q2)^2*cos(q5)*cos(q6)^2*sin(q5))/31250000000 +
(7618384777*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(614890153*cos(q4)*sin(q3)*sin(q5)*sin(q6))/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q2)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(32755927981*cos(q3)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q2)*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*sin(q3)*sin(q5)^2)/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q2)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(32755927981*cos(q2)*cos(q3)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(2740951021*cos(q2)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/15625000000 +
(10421867*cos(q3)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q2)^2*cos(q3)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/62500000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 +
(2740951021*cos(q2)*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/15625000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/62500000000 +
(10421867*cos(q2)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 -
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)^2*sin(q2)*sin(q5)*sin(q6))/125000000000 -
(10421867*cos(q2)^2*cos(q3)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000 +
(32755927981*cos(q2)^2*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
```

$$
\begin{aligned}
&(7618384777*\cos(q2)^2*\cos(q4)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/ \\
&62500000000 - (7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q5))/ \\
&31250000000 + (7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/ \\
&62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/31250000000 \\
&+ (7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/ \\
&62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/ \\
&31250000000) + dq2*((36647684119*\cos(q2)*\sin(q2))/62500000000 - \\
&(8538821*\cos(q2)^2*\sin(q3))/488281250 + (8538821*\sin(q2)^2*\sin(q3))/488281250 - \\
&(114870848333*\cos(q2)*\cos(q3)^2*\sin(q2))/1000000000000 + \\
&(237258851293*\cos(q2)*\cos(q4)^2*\sin(q2))/1000000000000 + \\
&(7618384777*\cos(q2)*\cos(q5)^2*\sin(q2))/31250000000 \\
&+ (21105437293*\cos(q2)^2*\cos(q3)*\sin(q4))/62500000000 - \\
&(80248811*\cos(q2)^2*\cos(q4)*\sin(q3))/7812500000 + \\
&(7618384777*\cos(q2)*\cos(q6)^2*\sin(q2))/62500000000 - \\
&(21105437293*\cos(q3)*\sin(q2)^2*\sin(q4))/62500000000 + \\
&(80248811*\cos(q4)*\sin(q2)^2*\sin(q3))/7812500000 + \\
&(21105437293*\cos(q2)*\cos(q4)*\sin(q2))/31250000000 - \\
&(32755927981*\cos(q2)*\cos(q3)^2*\cos(q6)*\sin(q2))/125000000000 + \\
&(237258851293*\cos(q2)^2*\cos(q3)*\cos(q4)*\sin(q4))/1000000000000 + \\
&(32755927981*\cos(q2)*\cos(q4)^2*\cos(q6)*\sin(q2))/125000000000 + \\
&(2740951021*\cos(q2)^2*\cos(q3)*\cos(q6)*\sin(q4))/15625000000 - \\
&(10421867*\cos(q2)^2*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 - \\
&(32755927981*\cos(q2)^2*\cos(q3)*\cos(q5)*\sin(q6))/250000000000 - \\
&(237258851293*\cos(q3)*\cos(q4)*\sin(q2)^2*\sin(q4))/1000000000000 - \\
&(2740951021*\cos(q3)*\cos(q6)*\sin(q2)^2*\sin(q4))/15625000000 + \\
&(10421867*\cos(q4)*\cos(q6)*\sin(q2)^2*\sin(q3))/1953125000 + \\
&(32755927981*\cos(q3)*\cos(q5)*\sin(q2)^2*\sin(q6))/250000000000 - \\
&(2740951021*\cos(q2)^2*\sin(q3)*\sin(q5)*\sin(q6))/15625000000 + \\
&(2740951021*\sin(q2)^2*\sin(q3)*\sin(q5)*\sin(q6))/15625000000 + \\
&(237258851293*\cos(q2)*\cos(q3)^2*\cos(q4)^2*\sin(q2))/1000000000000 - \\
&(7618384777*\cos(q2)*\cos(q3)^2*\cos(q5)^2*\sin(q2))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q3)^2*\cos(q6)^2*\sin(q2))/31250000000 - \\
&(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)^2*\sin(q2))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q4)^2*\cos(q6)^2*\sin(q2))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q5)^2*\cos(q6)^2*\sin(q2))/31250000000 + \\
&(2740951021*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q2))/7812500000 - \\
&(10421867*\cos(q2)*\sin(q2)*\sin(q5)*\sin(q6))/976562500 - \\
&(32755927981*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)^2*\sin(q4))/125000000000 - \\
&(2740951021*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)^2*\sin(q6))/15625000000 + \\
&(7618384777*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q2)^2*\sin(q6))/62500000000 + \\
&(10421867*\cos(q2)*\cos(q3)^2*\sin(q2)*\sin(q5)*\sin(q6))/976562500 + \\
&(7618384777*\cos(q2)^2*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 - \\
&(32755927981*\cos(q2)^2*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 + \\
&(10421867*\cos(q2)^2*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 - \\
&(7618384777*\cos(q5)*\sin(q2)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q4)*\sin(q2)^2*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 - \\
&(10421867*\cos(q5)*\sin(q2)^2*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 + \\
&(32755927981*\cos(q2)*\cos(q3)^2*\cos(q4)^2*\cos(q6)*\sin(q2))/125000000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q2)^2*\cos(q3)*\cos(q4)^2*\cos(q5)*\sin(q6))/125000000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^2*\sin(q2)^2*\sin(q4))/62500000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q2)^2*\sin(q4))/62500000000 - \\
&(32755927981*\cos(q3)*\cos(q4)^2*\cos(q5)*\sin(q2)^2*\sin(q6))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\sin(q2))/62500000000 +
\end{aligned}
$$

$$
\begin{aligned}
&(7618384777*\cos(q2)*\cos(q3)^2*\cos(q4)^2*\cos(q6)^2*\sin(q2))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/62500000000 + \\
&(80248811*\cos(q2)*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q4))/3906250000 - \\
&(2740951021*\cos(q2)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/7812500000 + \\
&(32755927981*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(2740951021*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q6))/15625000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/31250000000 - \\
&(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q2)^2*\sin(q6))/31250000000 - \\
&(7618384777*\cos(q2)^2*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 + \\
&(7618384777*\cos(q5)*\cos(q6)^2*\sin(q2)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(10421867*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/976562500 - \\
&(32755927981*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q2)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/62500000000 - \\
&(7618384777*\cos(q2)^2*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q4)*\cos(q6)*\sin(q2)^2*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q5))/31250000000 + \\
&(10421867*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/976562500 - \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/31250000000 + \\
&(32755927981*\cos(q2)*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/125000000000 \\
&- (32755927981*\cos(q2)*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/ \\
&125000000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/ \\
&31250000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/ \\
&31250000000 - \\
&(7618384777*\cos(q2)*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/ \\
&31250000000) + dq4*((4734679849*\cos(q4)*\sin(q3))/500000000000 - \\
&(21105437293*\sin(q4))/62500000000 - (2740951021*\cos(q6)*\sin(q4))/15625000000 + \\
&(21105437293*\cos(q2)^2*\sin(q4))/62500000000 + \\
&(237258851293*\cos(q2)^2*\cos(q4)*\sin(q4))/1000000000000 - \\
&(237258851293*\cos(q3)^2*\cos(q4)*\sin(q4))/1000000000000 + \\
&(2740951021*\cos(q2)^2*\cos(q6)*\sin(q4))/15625000000 + \\
&(80248811*\cos(q3)*\cos(q4)*\sin(q3))/7812500000 + \\
&(614890153*\cos(q4)*\cos(q6)*\sin(q3))/125000000000 - \\
&(2740951021*\cos(q4)*\cos(q5)*\sin(q6))/15625000000 + \\
&(237258851293*\cos(q2)*\cos(q3)*\cos(q4)^2*\sin(q2))/1000000000000 - \\
&(80248811*\cos(q2)^2*\cos(q3)*\cos(q4)*\sin(q3))/7812500000 + \\
&(32755927981*\cos(q2)^2*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(2740951021*\cos(q2)^2*\cos(q4)*\cos(q5)*\sin(q6))/15625000000 - \\
&(32755927981*\cos(q3)^2*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 - \\
&(237258851293*\cos(q2)*\cos(q3)*\sin(q2)*\sin(q4)^2)/1000000000000 + \\
&(237258851293*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\sin(q4))/1000000000000 - \\
&(7618384777*\cos(q2)^2*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q2)^2*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 - \\
&(32755927981*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 - \\
&(32755927981*\cos(q2)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(32755927981*\cos(q3)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(21105437293*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q2))/62500000000 + \\
&(10421867*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 + \\
&(80248811*\cos(q2)*\sin(q2)*\sin(q3)*\sin(q4))/7812500000 - \\
&(614890153*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 - \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4)^2)/125000000000 -
\end{aligned}
$$

$$
\begin{aligned}
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\sin(q2))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q6)^2*\sin(q2))/62500000000 + \\
&(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(7618384777*\cos(q2)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q5)^2*\sin(q2)*\sin(q4)^2)/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/62500000000 - \\
&(7618384777*\cos(q2)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 + \\
&(2740951021*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2))/15625000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q2)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(10421867*\cos(q2)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/1953125000 - \\
&(7618384777*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 - \\
&(10421867*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 - \\
&(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2))/125000000000 - \\
&(10421867*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 - \\
&(2740951021*\cos(q2)*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/15625000000 + \\
&(10421867*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/62500000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 + \\
&(32755927981*\cos(q2)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 - \\
&(32755927981*\cos(q2)^2*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 + \\
&(10421867*\cos(q2)^2*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/ \\
&62500000000 - \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 \\
&- (7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/ \\
&62500000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/ \\
&15625000000) - dq3*((1915553*\sin(q3))/3906250000 - \\
&(114870848333*\cos(q3)*\sin(q3))/1000000000000 \\
&\ - (4734679849*\cos(q3)*\sin(q4))/500000000000 - \\
&(80248811*\cos(q3)^2*\sin(q4))/7812500000 + (80248811*\sin(q3)^2*\sin(q4))/7812500000 + \\
&(614890153*\sin(q3)*\sin(q5)*\sin(q6))/125000000000 + \\
&(114870848333*\cos(q2)^2*\cos(q3)*\sin(q3))/1000000000000 + \\
&(237258851293*\cos(q3)*\cos(q4)^2*\sin(q3))/1000000000000 - \\
&(7618384777*\cos(q3)*\cos(q5)^2*\sin(q3))/62500000000 - \\
&(7618384777*\cos(q3)*\cos(q6)^2*\sin(q3))/31250000000 - \\
&(10421867*\cos(q3)^2*\cos(q6)*\sin(q4))/1953125000 + \\
&(10421867*\cos(q6)*\sin(q3)^2*\sin(q4))/1953125000 + \\
&(80248811*\cos(q2)^2*\cos(q3)^2*\sin(q4))/7812500000 - \\
&(80248811*\cos(q2)^2*\sin(q3)^2*\sin(q4))/7812500000 + \\
&(8538821*\cos(q2)*\cos(q3)*\sin(q2))/488281250 - \\
&(32755927981*\cos(q3)*\cos(q6)*\sin(q3))/125000000000 -
\end{aligned}
$$

$$(614890153*\cos(q3)*\cos(q6)*\sin(q4))/125000000000 +$$
$$(32755927981*\cos(q2)^2*\cos(q3)*\cos(q6)*\sin(q3))/125000000000 +$$
$$(32755927981*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q3))/125000000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q5))/62500000000 -$$
$$(10421867*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q6))/1953125000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\sin(q3)^2*\sin(q5))/62500000000 +$$
$$(10421867*\cos(q4)*\cos(q5)*\sin(q3)^2*\sin(q6))/1953125000 -$$
$$(32755927981*\cos(q3)^2*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(32755927981*\sin(q3)^2*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 -$$
$$(237258851293*\cos(q2)^2*\cos(q3)*\cos(q4)^2*\sin(q3))/1000000000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)^2*\sin(q3))/62500000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q6)^2*\sin(q3))/31250000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\sin(q3))/62500000000 +$$
$$(10421867*\cos(q2)^2*\cos(q3)^2*\cos(q6)*\sin(q4))/1953125000 +$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q6)^2*\sin(q3))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q3))/62500000000 -$$
$$(10421867*\cos(q2)^2*\cos(q6)*\sin(q3)^2*\sin(q4))/1953125000 +$$
$$(80248811*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q2))/7812500000 -$$
$$(614890153*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q6))/125000000000 +$$
$$(21105437293*\cos(q2)*\sin(q2)*\sin(q3)*\sin(q4))/62500000000 +$$
$$(10421867*\cos(q3)*\sin(q3)*\sin(q5)*\sin(q6))/976562500 -$$
$$(10421867*\cos(q2)^2*\cos(q3)*\sin(q3)*\sin(q5)*\sin(q6))/976562500 -$$
$$(7618384777*\cos(q3)^2*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q6)*\sin(q3)^2*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(32755927981*\cos(q2)^2*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q3))/125000000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q5))/62500000000 +$$
$$(10421867*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q6))/1953125000 +$$
$$(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q4)*\cos(q5)*\sin(q3)^2*\sin(q5))/62500000000 -$$
$$(10421867*\cos(q2)^2*\cos(q4)*\cos(q5)*\sin(q3)^2*\sin(q6))/1953125000 -$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q3)^2*\sin(q5))/62500000000 +$$
$$(32755927981*\cos(q2)^2*\cos(q3)^2*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 -$$
$$(32755927981*\cos(q2)^2*\sin(q3)^2*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(10421867*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2))/1953125000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\sin(q3))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)^2*\cos(q6)^2*\sin(q3))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q3))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q3))/62500000000 +$$
$$(237258851293*\cos(q2)*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q4))/1000000000000 +$$
$$(2740951021*\cos(q2)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/15625000000 +$$
$$(2740951021*\cos(q2)*\cos(q3)*\sin(q2)*\sin(q5)*\sin(q6))/15625000000 -$$
$$(32755927981*\cos(q2)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q6)*\sin(q3)^2*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 +$$
$$(32755927981*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/125000000000 +$$
$$(32755927981*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q5)*\sin(q6))/250000000000 -$$
$$(10421867*\cos(q2)*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/1953125000 +$$
$$(2740951021*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/15625000000 -$$
$$(7618384777*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 -$$
$$(32755927981*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q3)^2*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q3))/62500000000 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)^2*\sin(q2)*\sin(q3)*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q4))/62500000000 +$$
$$(32755927981*\cos(q2)*\cos(q4)^2*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q4))/62500000000 + (7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/$$

$$62500000000 - (7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/31250000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/62500000000$$
$$+ (32755927981*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/31250000000$$
$$+ (7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/31250000000)) + dq6*(dq4*((7618384777*\cos(q2)*\cos(q4)*\sin(q5))/125000000000 -$$
$$(614890153*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 -$$
$$(32755927981*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 +$$
$$(10421867*\cos(q2)*\cos(q4)*\sin(q6))/1953125000 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q6)^2*\sin(q5))/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\sin(q5)*\sin(q6)^2)/125000000000 +$$
$$(614890153*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q6))/125000000000 +$$
$$(10421867*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q4))/1953125000 +$$
$$(614890153*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2))/125000000000 -$$
$$(7618384777*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 -$$
$$(10421867*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q6))/1953125000 -$$
$$(2740951021*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q6))/15625000000 -$$
$$(7618384777*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 +$$
$$(7618384777*\cos(q5)^2*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q5)*\sin(q6)^2)/125000000000 +$$
$$(614890153*\cos(q2)*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q4))/125000000000 +$$
$$(10421867*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2))/1953125000 -$$
$$(2740951021*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/15625000000 +$$
$$(7618384777*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000) +$$
$$dq1*((32755927981*\cos(q3)^2*\sin(q6))/250000000000 -$$
$$(2740951021*\cos(q4)*\sin(q6))/15625000000 - (7618384777*\cos(q6)*\sin(q6))/62500000000$$
$$- (32755927981*\sin(q6))/250000000000 -$$
$$(614890153*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 +$$
$$(2740951021*\cos(q2)^2*\cos(q4)*\sin(q6))/15625000000 +$$
$$(10421867*\cos(q2)^2*\cos(q6)*\sin(q5))/1953125000 +$$
$$(7618384777*\cos(q2)^2*\cos(q6)*\sin(q6))/62500000000 +$$
$$(10421867*\cos(q3)^2*\cos(q6)*\sin(q5))/1953125000 +$$
$$(7618384777*\cos(q3)^2*\cos(q6)*\sin(q6))/31250000000 +$$
$$(7618384777*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 -$$
$$(32755927981*\cos(q2)^2*\cos(q3)^2*\sin(q6))/250000000000 +$$
$$(32755927981*\cos(q2)^2*\cos(q4)^2*\sin(q6))/250000000000 -$$
$$(32755927981*\cos(q3)^2*\cos(q4)^2*\sin(q6))/250000000000 +$$
$$(614890153*\cos(q3)*\cos(q6)*\sin(q5))/125000000000 -$$
$$(2740951021*\cos(q5)*\cos(q6)*\sin(q4))/15625000000 +$$
$$(2740951021*\cos(q2)^2*\cos(q5)*\cos(q6)*\sin(q4))/15625000000 -$$
$$(10421867*\cos(q2)^2*\cos(q3)^2*\cos(q6)*\sin(q5))/1953125000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q6)*\sin(q6))/31250000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q4)^2*\cos(q6)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/31250000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q6)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 +$$
$$(614890153*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3))/125000000000 +$$
$$(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q4)^2*\sin(q6))/250000000000 -$$
$$(10421867*\cos(q3)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 +$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q6)^2)/62500000000 +$$
$$(10421867*\cos(q2)^2*\cos(q3)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 +$$
$$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q3)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6)^2)/62500000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q4))/62500000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q4))/62500000000 -$$

$$
\begin{aligned}
&(7618384777*\cos(q2)^2*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6)^2)/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6)^2)/62500000000 - \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q2))/250000000000 + \\
&(10421867*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3))/1953125000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)^2*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q4)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 - \\
&(2740951021*\cos(q2)*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q6))/15625000000 + \\
&(10421867*\cos(q2)*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q6))/1953125000 - \\
&(2740951021*\cos(q2)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5))/15625000000 + \\
&(32755927981*\cos(q3)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q5))/250000000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q2))/62500000000 + \\
&(32755927981*\cos(q2)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q4))/250000000000 - \\
&(32755927981*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q4))/250000000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)^2*\sin(q2))/31250000000 + \\
&(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q4))/250000000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)*\sin(q2)*\sin(q6)^2)/31250000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6)^2)/62500000000 + \\
&(2740951021*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2))/15625000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q4))/62500000000 \\
& - (32755927981*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 - \\
&(32755927981*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5))/250000000000 + \\
&(10421867*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/1953125000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6)^2)/62500000000 + \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q2))/125000000000 - \\
&(10421867*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3))/1953125000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 - \\
&(32755927981*\cos(q2)^2*\cos(q3)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q5))/250000000000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6)^2)/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/31250000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/31250000000 + \\
&(7618384777*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/ \\
&31250000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)^2*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/ \\
&31250000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/ \\
&31250000000) - dq6*((2740951021*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/15625000000 - \\
&(614890153*\cos(q4)*\cos(q6)*\sin(q2))/125000000000 - \\
&(614890153*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q4))/125000000000 - \\
&(10421867*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2))/1953125000 - \\
&(10421867*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q6))/1953125000 - \\
&(10421867*\cos(q2)*\cos(q6)*\sin(q4))/1953125000 + \\
&(614890153*\cos(q2)*\sin(q3)*\sin(q5)*\sin(q6))/125000000000 + \\
&(2740951021*\cos(q3)*\sin(q2)*\sin(q5)*\sin(q6))/15625000000 + \\
&(32755927981*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 + \\
&(32755927981*\cos(q2)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 + \\
&(614890153*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 - \\
&(614890153*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q6))/125000000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q5)*\sin(q6))/250000000000 + \\
&(10421867*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/1953125000 + \\
&(2740951021*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/15625000000) + \\
&dq5*((7618384777*\cos(q2)*\cos(q5)*\sin(q4))/125000000000 - \\
&(7618384777*\sin(q2)*\sin(q3)*\sin(q5))/125000000000 + \\
&(7618384777*\cos(q2)*\cos(q5)*\cos(q6)^2*\sin(q4))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q5)*\sin(q4)*\sin(q6)^2)/125000000000 - \\
&(7618384777*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/125000000000 +
\end{aligned}
$$

$$(7618384777*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6)^2)/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2))/125000000000 +$$
$$(614890153*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q3))/125000000000 +$$
$$(2740951021*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q2))/15625000000 +$$
$$(10421867*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q5))/1953125000 +$$
$$(32755927981*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q4))/250000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q6))/62500000000 -$$
$$(32755927981*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5))/250000000000 -$$
$$(614890153*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q6)^2)/125000000000 +$$
$$(614890153*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q5))/125000000000 +$$
$$(32755927981*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2))/250000000000 -$$
$$(10421867*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q5))/1953125000 -$$
$$(2740951021*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5))/15625000000 -$$
$$(7618384777*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2))/125000000000) +$$
$$dq3*((32755927981*\cos(q2)*\cos(q4)^2*\sin(q6))/250000000000 -$$
$$(32755927981*\cos(q2)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q3)*\cos(q5)*\sin(q2))/125000000000 +$$
$$(10421867*\cos(q2)*\cos(q6)*\sin(q5))/1953125000 -$$
$$(7618384777*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)^2*\cos(q6)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q2)*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q6)^2)/125000000000 +$$
$$(614890153*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q5))/125000000000 -$$
$$(7618384777*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q5))/125000000000 -$$
$$(614890153*\cos(q2)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 -$$
$$(2740951021*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q6))/15625000000 -$$
$$(2740951021*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5))/15625000000 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6)^2)/62500000000 -$$
$$(7618384777*\cos(q4)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/125000000000 +$$
$$(7618384777*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6)^2)/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)^2*\sin(q2))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)*\sin(q2)*\sin(q6)^2)/62500000000 +$$
$$(614890153*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3))/125000000000 +$$
$$(2740951021*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2))/15625000000 +$$
$$(32755927981*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q4))/250000000000 -$$
$$(32755927981*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q4)*\sin(q6))/250000000000 -$$
$$(32755927981*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5))/250000000000 +$$
$$(32755927981*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q2))/250000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q4))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^2*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000)$$
$$+ dq2*((7618384777*\cos(q2)*\cos(q5)*\sin(q3))/125000000000 -$$
$$(7618384777*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 +$$
$$(614890153*\cos(q2)*\cos(q4)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q5)*\cos(q6)^2*\sin(q3))/125000000000 -$$
$$(7618384777*\cos(q2)*\cos(q5)*\sin(q3)*\sin(q6)^2)/125000000000 -$$
$$(10421867*\cos(q3)^2*\sin(q2)*\sin(q4)*\sin(q6))/1953125000 -$$
$$(7618384777*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 +$$
$$(7618384777*\sin(q2)*\sin(q4)*\sin(q5)*\sin(q6)^2)/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q5))/125000000000 +$$
$$(10421867*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q6))/1953125000 +$$
$$(32755927981*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q3))/250000000000 +$$
$$(614890153*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q4))/125000000000 -$$
$$(32755927981*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 -$$
$$(614890153*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 -$$

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(614890153*cos(q6)*sin(q2)*sin(q3)*sin(q5))/125000000000 -
(32755927981*cos(q6)*sin(q2)*sin(q4)*sin(q5))/250000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(32755927981*cos(q3)^2*cos(q6)*sin(q2)*sin(q4)*sin(q5))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +
(7618384777*cos(q3)^2*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q3)^2*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/62500000000 +
(10421867*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q4))/1953125000 +
(614890153*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2))/125000000000 +
(32755927981*cos(q2)*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 -
(10421867*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/1953125000 -
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/31250000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -
(32755927981*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q3))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2))/1953125000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/
62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/250000000000
+ (7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000
+ (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/
62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000
+ (7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/
31250000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q6)^2)/
62500000000)) -
dq3*(dq5*((7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q2)*cos(q5)*sin(q6))/1953125000 -
(7618384777*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(614890153*cos(q2)*cos(q3)*cos(q5)*sin(q6))/125000000000 +
(2740951021*cos(q5)*sin(q2)*sin(q3)*sin(q6))/15625000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 +
(614890153*cos(q2)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/125000000000 +
(2740951021*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/15625000000 +
(32755927981*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(32755927981*cos(q2)*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000)
- dq4*((237258851293*cos(q3)*sin(q2))/2000000000000 +
(237258851293*cos(q3)*cos(q4)^2*sin(q2))/2000000000000 +
(7618384777*cos(q3)*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q2))/125000000000
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- (237258851293*cos(q3)*sin(q2)*sin(q4)^2)/2000000000000 +
(4734679849*cos(q2)*cos(q4)*sin(q3))/500000000000 +
(21105437293*cos(q3)*cos(q4)*sin(q2))/62500000000 +
(237258851293*cos(q2)*cos(q4)*sin(q4))/1000000000000 +
(32755927981*cos(q3)*cos(q6)*sin(q2))/250000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +
(32755927981*cos(q2)*cos(q4)^2*cos(q5)*sin(q6))/250000000000 -
(32755927981*cos(q3)*cos(q6)*sin(q2)*sin(q4)^2)/250000000000 -
(32755927981*cos(q2)*cos(q5)*sin(q4)^2*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q5)^2*sin(q2)*sin(q4)^2)/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q4)^2)/125000000000 +
(614890153*cos(q2)*cos(q4)*cos(q6)*sin(q3))/125000000000 +
(2740951021*cos(q3)*cos(q4)*cos(q6)*sin(q2))/15625000000 +
(32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q4)^2*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(614890153*cos(q2)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 -
(2740951021*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/15625000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q4)^2)/125000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/62500000000 -
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/31250000000) +
dq2*((359646854253*sin(q2))/2000000000000 + (1915553*cos(q3)*sin(q2))/3906250000 +
(32755927981*cos(q6)*sin(q2))/250000000000 -
(114870848333*cos(q3)^2*sin(q2))/2000000000000 -
(237258851293*cos(q4)^2*sin(q2))/2000000000000 -
(7618384777*cos(q5)^2*sin(q2))/125000000000 +
(114870848333*sin(q2)*sin(q3)^2)/2000000000000 +
(4734679849*sin(q2)*sin(q3)*sin(q4))/500000000000 +
(10421867*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q6)*sin(q2))/250000000000 -
(32755927981*cos(q4)^2*cos(q6)*sin(q2))/250000000000 +
(32755927981*cos(q6)*sin(q2)*sin(q3)^2)/250000000000 +
(237258851293*cos(q3)^2*cos(q4)^2*sin(q2))/2000000000000 -
(7618384777*cos(q3)^2*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)^2*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(237258851293*cos(q4)^2*sin(q2)*sin(q3)^2)/2000000000000 +
(7618384777*cos(q5)^2*sin(q2)*sin(q3)^2)/125000000000 +
(7618384777*cos(q6)^2*sin(q2)*sin(q3)^2)/62500000000 +
(10421867*cos(q3)^2*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(10421867*sin(q2)*sin(q3)^2*sin(q5)*sin(q6))/1953125000 +
(32755927981*cos(q3)^2*cos(q4)^2*cos(q6)*sin(q2))/250000000000 -
(32755927981*cos(q4)^2*cos(q6)*sin(q2)*sin(q3)^2)/250000000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(80248811*cos(q3)*sin(q2)*sin(q3)*sin(q4))/3906250000 +
(614890153*cos(q6)*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(614890153*cos(q3)*sin(q2)*sin(q5)*sin(q6))/125000000000 +

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(7618384777*cos(q4)^2*cos(q5)^2*sin(q2)*sin(q3)^2)/125000000000 -
(7618384777*cos(q4)^2*cos(q6)^2*sin(q2)*sin(q3)^2)/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)^2)/125000000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)^2)/125000000000 +
(10421867*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/976562500 +
(614890153*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/125000000000 +
(32755927981*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/31250000000 +
(10421867*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/976562500 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 +
(32755927981*cos(q3)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/125000000000 -
(32755927981*cos(q3)^2*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(32755927981*cos(q4)*cos(q5)*sin(q2)*sin(q3)^2*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/31250000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/31250000000
- (7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/
62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)^2*sin(q4)*sin(q6))/62500000000)
+ dq3*((1915553*cos(q2)*sin(q3))/3906250000 + (8538821*cos(q3)*sin(q2))/488281250 +
(21105437293*sin(q2)*sin(q3)*sin(q4))/62500000000 -
(4734679849*cos(q2)*cos(q3)*sin(q4))/500000000000 +
(80248811*cos(q3)*cos(q4)*sin(q2))/7812500000 -
(614890153*cos(q2)*cos(q3)*cos(q6)*sin(q4))/125000000000 +
(10421867*cos(q3)*cos(q4)*cos(q6)*sin(q2))/1953125000 +
(237258851293*cos(q4)*sin(q2)*sin(q3)*sin(q4))/1000000000000 +
(2740951021*cos(q6)*sin(q2)*sin(q3)*sin(q4))/15625000000 +
(614890153*cos(q2)*sin(q3)*sin(q5)*sin(q6))/125000000000 +
(2740951021*cos(q3)*sin(q2)*sin(q5)*sin(q6))/15625000000 -
(32755927981*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 -
(7618384777*cos(q4)*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q6))/125000000000 -
(614890153*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/1953125000 +
(2740951021*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/15625000000 -
(7618384777*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q4)^2*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/31250000000) -
dq6*((32755927981*cos(q2)*cos(q4)^2*sin(q6))/250000000000 -
(32755927981*cos(q2)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2))/125000000000 +
(10421867*cos(q2)*cos(q6)*sin(q5))/1953125000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q6)^2)/125000000000 +
(614890153*cos(q2)*cos(q3)*cos(q6)*sin(q5))/125000000000 -
(7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5))/125000000000 -
(614890153*cos(q2)*sin(q3)*sin(q4)*sin(q6))/125000000000 -
(2740951021*cos(q3)*sin(q2)*sin(q4)*sin(q6))/15625000000 -
(2740951021*cos(q6)*sin(q2)*sin(q3)*sin(q5))/15625000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/125000000000 +
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(7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q6)^2)/62500000000 +
(614890153*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/125000000000 +
(2740951021*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2))/15625000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 -
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q4)*sin(q6))/250000000000 -
(32755927981*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/250000000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000)
+ dq1*((1915553*sin(q3))/3906250000 - (114870848333*cos(q3)*sin(q3))/1000000000000
- (4734679849*cos(q3)*sin(q4))/500000000000 -
(80248811*cos(q3)^2*sin(q4))/7812500000 + (80248811*sin(q3)^2*sin(q4))/7812500000 +
(614890153*sin(q3)*sin(q5)*sin(q6))/125000000000 +
(114870848333*cos(q2)^2*cos(q3)*sin(q3))/1000000000000 +
(237258851293*cos(q3)*cos(q4)^2*sin(q3))/1000000000000 -
(7618384777*cos(q3)*cos(q5)^2*sin(q3))/62500000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q3))/31250000000 -
(10421867*cos(q3)^2*cos(q6)*sin(q4))/1953125000 +
(10421867*cos(q6)*sin(q3)^2*sin(q4))/1953125000 +
(80248811*cos(q2)^2*cos(q3)^2*sin(q4))/7812500000 -
(80248811*cos(q2)^2*sin(q3)^2*sin(q4))/7812500000 +
(8538821*cos(q2)*cos(q3)*sin(q2))/488281250 -
(32755927981*cos(q3)*cos(q6)*sin(q3))/125000000000 -
(614890153*cos(q3)*cos(q6)*sin(q4))/125000000000 +
(32755927981*cos(q2)^2*cos(q3)*cos(q6)*sin(q3))/125000000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q6)*sin(q3))/125000000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q3)^2*cos(q4)*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)^2*sin(q5))/62500000000 +
(10421867*cos(q4)*cos(q5)*sin(q3)^2*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(32755927981*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(237258851293*cos(q2)^2*cos(q3)*cos(q4)^2*sin(q3))/1000000000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q5)^2*sin(q3))/62500000000
 + (7618384777*cos(q2)^2*cos(q3)*cos(q6)^2*sin(q3))/31250000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q3))/62500000000 +
(10421867*cos(q2)^2*cos(q3)^2*cos(q6)*sin(q4))/1953125000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(10421867*cos(q2)^2*cos(q6)*sin(q3)^2*sin(q4))/1953125000 +
(80248811*cos(q2)*cos(q3)*cos(q4)*sin(q2))/7812500000 -
(614890153*cos(q3)*cos(q4)*cos(q5)*sin(q6))/125000000000 +
(21105437293*cos(q2)*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(10421867*cos(q3)*sin(q3)*sin(q5)*sin(q6))/976562500 -
(10421867*cos(q2)^2*cos(q3)*sin(q3)*sin(q5)*sin(q6))/976562500 -
(7618384777*cos(q3)^2*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q6)*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(32755927981*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q6)*sin(q3))/125000000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*sin(q5))/62500000000 +
(10421867*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q2)^2*cos(q4)*cos(q5)*sin(q3)^2*sin(q5))/62500000000 -
(10421867*cos(q2)^2*cos(q4)*cos(q5)*sin(q3)^2*sin(q6))/1953125000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)^2*sin(q5))/62500000000 +
```

$$(32755927981*cos(q2)^2*cos(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 -$$
$$(32755927981*cos(q2)^2*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 +$$
$$(10421867*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q2))/1953125000 +$$
$$(7618384777*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q3))/62500000000 -$$
$$(7618384777*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q3))/62500000000 -$$
$$(7618384777*cos(q2)^2*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 +$$
$$(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 +$$
$$(237258851293*cos(q2)*cos(q4)*sin(q2)*sin(q3)*sin(q4))/1000000000000 +$$
$$(2740951021*cos(q2)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/15625000000 +$$
$$(2740951021*cos(q2)*cos(q3)*sin(q2)*sin(q5)*sin(q6))/15625000000 -$$
$$(32755927981*cos(q2)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 +$$
$$(7618384777*cos(q2)^2*cos(q3)^2*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -$$
$$(7618384777*cos(q2)^2*cos(q6)*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/62500000000 -$$
$$(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -$$
$$(7618384777*cos(q2)*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +$$
$$(32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/125000000000 +$$
$$(32755927981*cos(q2)*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/250000000000 -$$
$$(10421867*cos(q2)*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/1953125000 +$$
$$(2740951021*cos(q2)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/15625000000 -$$
$$(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 -$$
$$(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 +$$
$$(7618384777*cos(q2)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)^2*sin(q5))/62500000000 -$$
$$(7618384777*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -$$
$$(7618384777*cos(q2)*cos(q4)*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +$$
$$(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +$$
$$(32755927981*cos(q2)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q6))/125000000000 +$$
$$(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/$$
$$62500000000 + (7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/$$
$$62500000000 - (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/$$
$$31250000000 +$$
$$(7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000$$
$$+ (32755927981*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/$$
$$125000000000 +$$
$$(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/31250000000$$
$$+ (7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/$$
$$31250000000));$$
$$,(683976269192233*cos(q2)*sin(q3))/1677721600000000 -$$
$$(1858472413809869*sin(q2))/104857600000000 -$$
$$(8655804529431431*cos(q4)*sin(q2))/1099511627776000 - ddq2*((7618384777*cos(q6)^2)/$$
$$62500000000 - (2740951021*cos(q4)*cos(q6))/7812500000 - (10421867*sin(q5)*sin(q6))/$$
$$976562500 - (114870848333*cos(q3)^2)/1000000000 -$$
$$(237258851293*cos(q4)^2)/1000000000000 - (21105437293*cos(q4))/31250000000 -$$
$$(32755927981*cos(q3)^2*cos(q6))/125000000000 -$$
$$(32755927981*cos(q4)^2*cos(q6))/125000000000 +$$
$$(237258851293*cos(q3)^2*cos(q4)^2)/1000000000000 -$$
$$(7618384777*cos(q3)^2*cos(q5)^2)/62500000000 -$$
$$(7618384777*cos(q3)^2*cos(q6)^2)/31250000000 +$$
$$(7618384777*cos(q4)^2*cos(q5)^2)/62500000000 -$$
$$(7618384777*cos(q4)^2*cos(q6)^2)/62500000000 +$$
$$(10421867*cos(q3)^2*sin(q5)*sin(q6))/976562500 +$$
$$(32755927981*cos(q3)^2*cos(q4)^2*cos(q6))/125000000000 -$$
$$(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2)/62500000000 +$$
$$(7618384777*cos(q3)^2*cos(q4)^2*cos(q6)^2)/62500000000 +$$
$$(7618384777*cos(q3)^2*cos(q5)^2*cos(q6)^2)/62500000000 -$$
$$(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2)/62500000000 +$$
$$(80248811*cos(q3)*sin(q3)*sin(q4))/3906250000 +$$
$$(2740951021*cos(q5)*sin(q4)*sin(q6))/7812500000 +$$
$$(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)^2)/62500000000 +$$
$$(10421867*cos(q3)*cos(q6)*sin(q3)*sin(q4))/976562500 +$$

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(32755927981*cos(q4)*cos(q5)*sin(q4)*sin(q6))/125000000000 -
(32755927981*cos(q3)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q5))/31250000000 +
(10421867*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q6))/976562500 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q4)*sin(q6))/31250000000 +
(32755927981*cos(q3)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/125000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/31250000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q5))/31250000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4)*sin(q6))/31250000000 -
3743117073727671/4503599627370496) +
dq5*(dq3*((7618384777*cos(q3)*sin(q4))/125000000000 +
(7618384777*cos(q3)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(2740951021*cos(q3)*cos(q5)*sin(q6))/15625000000 +
(32755927981*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q6))/250000000000 +
(2740951021*cos(q4)*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(7618384777*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000) -
dq1*((7618384777*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)*sin(q2))/125000000000 + (7618384777*cos(q4)*cos(q6)^2*sin(q2))/
125000000000 - (7618384777*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 +
(2740951021*cos(q2)*cos(q3)*cos(q5)*sin(q6))/15625000000 -
(10421867*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q2)*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(2740951021*cos(q2)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/
62500000000 +
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000
- (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/
62500000000 +
```

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(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/
62500000000) + dq2*((10421867*cos(q5)*sin(q6))/1953125000 +
(2740951021*sin(q4)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q3)^2*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q3)^2*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)*sin(q3)*sin(q5)^2)/62500000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(32755927981*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(32755927981*cos(q3)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/62500000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(10421867*cos(q3)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000) +
dq5*((2740951021*sin(q3)*sin(q5)*sin(q6))/15625000000 -
(32755927981*cos(q3)*cos(q5)*sin(q6))/250000000000 -
(2740951021*cos(q3)*cos(q4)*cos(q5)*sin(q6))/15625000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q4)*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q5)*sin(q3)*sin(q4)*sin(q6))/1953125000 +
(7618384777*cos(q4)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000) -
dq6*((7618384777*cos(q3)*sin(q5))/125000000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q5))/125000000000 -
(7618384777*cos(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3))/125000000000 +
(32755927981*cos(q3)*cos(q6)*sin(q5))/250000000000 +
(2740951021*cos(q5)*cos(q6)*sin(q3))/15625000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 +
(2740951021*cos(q3)*cos(q4)*cos(q6)*sin(q5))/15625000000 +
(32755927981*cos(q4)*cos(q5)*cos(q6)*sin(q3))/250000000000 -
(10421867*cos(q6)*sin(q3)*sin(q4)*sin(q5))/1953125000 -
(7618384777*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) +
dq4*((7618384777*cos(q4)*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q4)*sin(q3)*sin(q5)^2)/125000000000 -
(7618384777*cos(q3)*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/125000000000 +
(2740951021*cos(q3)*sin(q4)*sin(q5)*sin(q6))/15625000000 +
(10421867*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000)) -
ddq6*((7618384777*cos(q4)*sin(q3)*sin(q5))/62500000000 -
(32755927981*cos(q3)*cos(q5)*cos(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5))/62500000000 +
(2740951021*cos(q3)*sin(q4)*sin(q6))/15625000000 +
(10421867*cos(q4)*sin(q3)*sin(q6))/1953125000 +
(2740951021*cos(q6)*sin(q3)*sin(q5))/15625000000 -
(2740951021*cos(q3)*cos(q4)*cos(q5)*cos(q6))/15625000000 +
(32755927981*cos(q4)*cos(q6)*sin(q3)*sin(q5))/250000000000 +
(10421867*cos(q5)*cos(q6)*sin(q3)*sin(q4))/1953125000) -
```

```
ddq4*((80248811*sin(q3)*sin(q4))/7812500000 -
(21105437293*cos(q3)*cos(q4))/62500000000 -
(32755927981*cos(q3)*cos(q6))/125000000000 - (237258851293*cos(q3))/1000000000000 -
(7618384777*cos(q3)*cos(q5)^2)/62500000000 -
(7618384777*cos(q3)*cos(q6)^2)/62500000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2)/62500000000 -
(2740951021*cos(q3)*cos(q4)*cos(q6))/15625000000 +
(10421867*cos(q6)*sin(q3)*sin(q4))/1953125000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q5))/62500000000 +
(2740951021*cos(q3)*cos(q5)*sin(q4)*sin(q6))/15625000000 +
(10421867*cos(q4)*cos(q5)*sin(q3)*sin(q6))/1953125000 +
(32755927981*sin(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q5))/62500000000 +
(7618384777*cos(q6)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/62500000000) -
ddq3*((8538821*cos(q3))/488281250 + (80248811*cos(q3)*cos(q4))/7812500000 +
(21105437293*sin(q3)*sin(q4))/62500000000 +
(10421867*cos(q3)*cos(q4)*cos(q6))/1953125000 +
(237258851293*cos(q4)*sin(q3)*sin(q4))/1000000000000 +
(2740951021*cos(q6)*sin(q3)*sin(q4))/15625000000 +
(2740951021*cos(q3)*sin(q5)*sin(q6))/15625000000 -
(32755927981*cos(q5)*sin(q3)*sin(q6))/250000000000 -
(7618384777*cos(q4)*cos(q5)^2*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q4)^2*cos(q5)*sin(q3)*sin(q6))/125000000000
 - (7618384777*cos(q3)*cos(q5)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q4)*cos(q6)*sin(q3)*sin(q4))/125000000000 +
(32755927981*cos(q3)*cos(q4)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q3)*cos(q5)*sin(q4)*sin(q6))/1953125000 +
(2740951021*cos(q4)*cos(q5)*sin(q3)*sin(q6))/15625000000 -
(7618384777*cos(q5)*cos(q6)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q4)^2*cos(q5)*cos(q6)*sin(q3)*sin(q6))/31250000000 +
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q5)*sin(q6))/62500000000) -
dq3*(dq6*((7618384777*cos(q5)*sin(q3))/125000000000 -
(2740951021*sin(q3)*sin(q4)*sin(q6))/15625000000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q5))/125000000000 +
(2740951021*cos(q3)*cos(q6)*sin(q5))/15625000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 +
(32755927981*cos(q4)^2*cos(q5)*cos(q6)*sin(q3))/250000000000 -
(7618384777*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q6)*sin(q5))/250000000000 +
(2740951021*cos(q4)*cos(q5)*cos(q6)*sin(q3))/15625000000 -
(32755927981*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 -
(7618384777*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) -
dq5*((7618384777*cos(q3)*sin(q4))/125000000000 +
(7618384777*cos(q3)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(2740951021*cos(q3)*cos(q5)*sin(q6))/15625000000 +
(32755927981*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 -
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(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q6))/250000000000 +
(2740951021*cos(q4)*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(7618384777*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000) +
dq3*((21105437293*cos(q3)*sin(q4))/62500000000 - (8538821*sin(q3))/488281250 -
(80248811*cos(q4)*sin(q3))/7812500000 -
(2740951021*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(237258851293*cos(q3)*cos(q4)*sin(q4))/1000000000000 +
(2740951021*cos(q3)*cos(q6)*sin(q4))/15625000000 -
(10421867*cos(q4)*cos(q6)*sin(q3))/1953125000 -
(32755927981*cos(q3)*cos(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*sin(q6))/125000000000 +
(32755927981*cos(q3)*cos(q4)*cos(q6)*sin(q4))/125000000000 +
(2740951021*cos(q3)*cos(q4)*cos(q5)*sin(q6))/15625000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(32755927981*cos(q4)*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q5)*sin(q3)*sin(q4)*sin(q6))/1953125000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q4)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/31250000000) +
dq4*((237258851293*sin(q3))/2000000000000 +
(21105437293*cos(q4)*sin(q3))/62500000000 +
(32755927981*cos(q6)*sin(q3))/250000000000 +
(237258851293*cos(q4)^2*sin(q3))/2000000000000 +
(7618384777*cos(q5)^2*sin(q3))/125000000000 +
(7618384777*cos(q6)^2*sin(q3))/125000000000 -
(237258851293*sin(q3)*sin(q4)^2)/2000000000000 +
(32755927981*cos(q4)^2*cos(q6)*sin(q3))/250000000000 -
(32755927981*cos(q6)*sin(q3)*sin(q4)^2)/250000000000 -
(7618384777*cos(q4)^2*cos(q5)^2*sin(q3))/125000000000 +
(7618384777*cos(q4)^2*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q5)^2*sin(q3)*sin(q4)^2)/125000000000 -
(7618384777*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +
(2740951021*cos(q4)*cos(q6)*sin(q3))/15625000000 +
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 -
(2740951021*cos(q5)*sin(q3)*sin(q4)*sin(q6))/15625000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 -
(32755927981*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/31250000000) +
dq1*((237258851293*cos(q4)^2*sin(q2))/2000000000000 -
(8538821*cos(q2)*sin(q3))/488281250 - (32755927981*cos(q6)*sin(q2))/250000000000 -
(114870848333*cos(q3)^2*sin(q2))/2000000000000 -
(359646854253*sin(q2))/2000000000000 + (7618384777*cos(q5)^2*sin(q2))/125000000000
+ (114870848333*sin(q2)*sin(q3)^2)/2000000000000 -
(10421867*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q6)*sin(q2))/250000000000 +
(32755927981*cos(q4)^2*cos(q6)*sin(q2))/250000000000 +
(32755927981*cos(q6)*sin(q2)*sin(q3)^2)/250000000000 +
(237258851293*cos(q3)^2*cos(q4)^2*sin(q2))/2000000000000 -
(7618384777*cos(q3)^2*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)^2*cos(q6)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
```

$$\begin{aligned}
&(7618384777 \cdot \cos(q4)^2 \cdot \cos(q6)^2 \cdot \sin(q2))/125000000000 - \\
&(7618384777 \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2))/125000000000 - \\
&(237258851293 \cdot \cos(q4)^2 \cdot \sin(q2) \cdot \sin(q3)^2)/2000000000000 + \\
&(7618384777 \cdot \cos(q5)^2 \cdot \sin(q2) \cdot \sin(q3)^2)/125000000000 + \\
&(7618384777 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3)^2)/62500000000 + \\
&(21105437293 \cdot \cos(q2) \cdot \cos(q3) \cdot \sin(q4))/62500000000 - \\
&(80248811 \cdot \cos(q2) \cdot \cos(q4) \cdot \sin(q3))/7812500000 + \\
&(10421867 \cdot \cos(q3)^2 \cdot \sin(q2) \cdot \sin(q5) \cdot \sin(q6))/1953125000 - \\
&(10421867 \cdot \sin(q2) \cdot \sin(q3)^2 \cdot \sin(q5) \cdot \sin(q6))/1953125000 + \\
&(32755927981 \cdot \cos(q3)^2 \cdot \cos(q4)^2 \cdot \cos(q6) \cdot \sin(q2))/250000000000 - \\
&(32755927981 \cdot \cos(q4)^2 \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3)^2)/250000000000 + \\
&(237258851293 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \sin(q4))/1000000000000 + \\
&(2740951021 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q6) \cdot \sin(q4))/15625000000 - \\
&(10421867 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q3))/1953125000 - \\
&(32755927981 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q5) \cdot \sin(q6))/250000000000 - \\
&(7618384777 \cdot \cos(q3)^2 \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \sin(q2))/125000000000 + \\
&(7618384777 \cdot \cos(q3)^2 \cdot \cos(q4)^2 \cdot \cos(q6)^2 \cdot \sin(q2))/125000000000 + \\
&(7618384777 \cdot \cos(q3)^2 \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2))/125000000000 + \\
&(7618384777 \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2))/125000000000 + \\
&(80248811 \cdot \cos(q3) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/3906250000 - \\
&(2740951021 \cdot \cos(q2) \cdot \sin(q3) \cdot \sin(q5) \cdot \sin(q6))/15625000000 + \\
&(7618384777 \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \sin(q2) \cdot \sin(q3)^2)/125000000000 - \\
&(7618384777 \cdot \cos(q4)^2 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3)^2)/125000000000 - \\
&(7618384777 \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3)^2)/125000000000 + \\
&(7618384777 \cdot \cos(q3)^2 \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2))/125000000000 - \\
&(7618384777 \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3)^2)/125000000000 + \\
&(32755927981 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q4))/125000000000 + \\
&(2740951021 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q6))/15625000000 - \\
&(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q6))/62500000000 + \\
&(10421867 \cdot \cos(q3) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/976562500 + \\
&(7618384777 \cdot \cos(q2) \cdot \cos(q5) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q5))/62500000000 - \\
&(32755927981 \cdot \cos(q2) \cdot \cos(q4) \cdot \sin(q3) \cdot \sin(q5) \cdot \sin(q6))/250000000000 + \\
&(10421867 \cdot \cos(q2) \cdot \cos(q5) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q6))/1953125000 - \\
&(32755927981 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/250000000000 - \\
&(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \sin(q4))/62500000000 + \\
&(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q6)^2 \cdot \sin(q4))/62500000000 + \\
&(32755927981 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \sin(q6))/125000000000 + \\
&(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q4))/62500000000 + \\
&(7618384777 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q5))/31250000000 + \\
&(10421867 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q6))/976562500 - \\
&(7618384777 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q3) \cdot \sin(q5) \cdot \sin(q6))/62500000000 - \\
&(7618384777 \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/62500000000 + \\
&(32755927981 \cdot \cos(q3) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/125000000000 + \\
&(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q6))/31250000000 - \\
&(32755927981 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/250000000000 - \\
&(7618384777 \cdot \cos(q2) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q5))/62500000000 + \\
&(32755927981 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3)^2 \cdot \sin(q4) \cdot \sin(q6))/250000000000 + \\
&(7618384777 \cdot \cos(q3) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/31250000000 - \\
&(7618384777 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q5))/31250000000 \\
&- (7618384777 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/62500000000 + \\
&(7618384777 \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3)^2 \cdot \sin(q4) \cdot \sin(q6))/62500000000) \\
&+ dq2 \cdot ((114870848333 \cdot \cos(q3) \cdot \sin(q3))/1000000000000 + (80248811 \cdot \cos(q3)^2 \cdot \sin(q4))/7812500000 - (80248811 \cdot \sin(q3)^2 \cdot \sin(q4))/7812500000 - \\
&(237258851293 \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \sin(q3))/1000000000000 + \\
&(7618384777 \cdot \cos(q3) \cdot \cos(q5)^2 \cdot \sin(q3))/62500000000 + \\
&(7618384777 \cdot \cos(q3) \cdot \cos(q6)^2 \cdot \sin(q3))/31250000000 + \\
&(10421867 \cdot \cos(q3)^2 \cdot \cos(q6) \cdot \sin(q4))/1953125000 - \\
&(10421867 \cdot \cos(q6) \cdot \sin(q3)^2 \cdot \sin(q4))/1953125000 +
\end{aligned}$$

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(32755927981*cos(q3)*cos(q6)*sin(q3))/125000000000 -
(32755927981*cos(q3)*cos(q4)^2*cos(q6)*sin(q3))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*sin(q5))/62500000000 +
(10421867*cos(q3)^2*cos(q4)*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q4)*cos(q5)*sin(q3)^2*sin(q5))/62500000000 -
(10421867*cos(q4)*cos(q5)*sin(q3)^2*sin(q6))/1953125000 +
(32755927981*cos(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(32755927981*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q3))/62500000000
 - (7618384777*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(10421867*cos(q3)*sin(q3)*sin(q5)*sin(q6))/976562500 +
(7618384777*cos(q3)^2*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q6)*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)^2*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/31250000000))
 - ddq5*((7618384777*cos(q6)^2*sin(q3)*sin(q4))/62500000000 -
(7618384777*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q3)*sin(q5)*sin(q6))/250000000000 +
(2740951021*cos(q5)*sin(q3)*sin(q6))/15625000000 +
(2740951021*cos(q3)*cos(q4)*sin(q5)*sin(q6))/15625000000 +
(32755927981*cos(q4)*cos(q5)*sin(q3)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q5)*sin(q6))/62500000000 -
(10421867*sin(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q6))/62500000000) -
dq4*(dq3*((237258851293*sin(q3))/2000000000000 +
(21105437293*cos(q4)*sin(q3))/62500000000 +
(32755927981*cos(q6)*sin(q3))/250000000000 +
(237258851293*cos(q4)^2*sin(q3))/2000000000000 +
(7618384777*cos(q5)^2*sin(q3))/125000000000 +
(7618384777*cos(q6)^2*sin(q3))/125000000000 -
(237258851293*sin(q3)*sin(q4)^2)/2000000000000 +
(32755927981*cos(q4)^2*cos(q6)*sin(q3))/250000000000 -
(32755927981*cos(q6)*sin(q3)*sin(q4)^2)/250000000000 -
(7618384777*cos(q4)^2*cos(q5)^2*sin(q3))/125000000000 +
(7618384777*cos(q4)^2*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q5)^2*sin(q3)*sin(q4)^2)/125000000000 -
(7618384777*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +
(2740951021*cos(q4)*cos(q6)*sin(q3))/15625000000 +
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 -
(2740951021*cos(q5)*sin(q3)*sin(q4)*sin(q6))/15625000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 -
(32755927981*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/31250000000) -
dq1*((80248811*cos(q3)^2*cos(q4)*sin(q2))/7812500000 -
(80248811*cos(q4)*sin(q2))/7812500000 -
(237258851293*cos(q2)*cos(q4)^2*sin(q3))/2000000000000 -
(237258851293*cos(q2)*sin(q3))/2000000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q3))/125000000000 +
(237258851293*cos(q2)*sin(q3)*sin(q4)^2)/2000000000000 -
(21105437293*cos(q2)*cos(q4)*sin(q3))/62500000000 -
(32755927981*cos(q2)*cos(q6)*sin(q3))/250000000000 -
(10421867*cos(q4)*cos(q6)*sin(q2))/1953125000 -
(32755927981*cos(q2)*cos(q4)^2*cos(q6)*sin(q3))/250000000000 +
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```
(10421867*cos(q3)^2*cos(q4)*cos(q6)*sin(q2))/1953125000 +
(32755927981*cos(q2)*cos(q6)*sin(q3)*sin(q4)^2)/250000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q3)*sin(q4)^2)/125000000000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 -
(2740951021*cos(q2)*cos(q4)*cos(q6)*sin(q3))/15625000000 +
(7618384777*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 -
(32755927981*cos(q4)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q5)*sin(q2)*sin(q4)*sin(q6))/1953125000 -
(7618384777*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q6))/1953125000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +
(237258851293*cos(q3)*cos(q4)*sin(q2)*sin(q3)*sin(q4))/1000000000000 +
(2740951021*cos(q2)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/15625000000 -
(7618384777*cos(q4)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +
(7618384777*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 -
(32755927981*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q4)^2*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/
62500000000 + (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/
31250000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000
- (7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)^2*sin(q6))/
62500000000) + dq2*((21105437293*sin(q4))/62500000000 +
(237258851293*cos(q4)*sin(q4))/1000000000000 +
(2740951021*cos(q6)*sin(q4))/15625000000 -
(237258851293*cos(q3)^2*cos(q4)*sin(q4))/1000000000000 -
(7618384777*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +
(32755927981*cos(q4)^2*cos(q5)*sin(q6))/250000000000 -
(32755927981*cos(q5)*sin(q4)^2*sin(q6))/250000000000 +
(80248811*cos(q3)*cos(q4)*sin(q3))/7812500000 +
(32755927981*cos(q4)*cos(q6)*sin(q4))/125000000000 +
(2740951021*cos(q4)*cos(q5)*sin(q6))/15625000000 -
(32755927981*cos(q3)^2*cos(q4)*cos(q6)*sin(q4))/125000000000 +
(7618384777*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q5)*cos(q6)*sin(q4)^2*sin(q6))/62500000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*sin(q4))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)^2*sin(q4))/62500000000 -
(32755927981*cos(q3)^2*cos(q4)^2*cos(q5)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 +
(32755927981*cos(q3)^2*cos(q5)*sin(q4)^2*sin(q6))/250000000000 +
(10421867*cos(q3)*cos(q4)*cos(q6)*sin(q3))/1953125000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q3)^2*cos(q5)*cos(q6)*sin(q4)^2*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q3)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/1953125000 +
```

$$(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 +$$
$$(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000) -$$
$$dq5*((7618384777*cos(q4)*sin(q3))/125000000000 -$$
$$(7618384777*cos(q4)*cos(q5)^2*sin(q3))/125000000000 -$$
$$(7618384777*cos(q4)*cos(q6)^2*sin(q3))/125000000000 +$$
$$(7618384777*cos(q4)*sin(q3)*sin(q5)^2)/125000000000 -$$
$$(7618384777*cos(q3)*cos(q5)*sin(q5))/62500000000 +$$
$$(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +$$
$$(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 -$$
$$(7618384777*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/125000000000 +$$
$$(2740951021*cos(q3)*sin(q4)*sin(q5)*sin(q6))/15625000000 +$$
$$(10421867*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000) +$$
$$dq6*((32755927981*cos(q3)*sin(q6))/250000000000 -$$
$$(7618384777*sin(q3)*sin(q4)*sin(q5))/125000000000 -$$
$$(10421867*sin(q3)*sin(q4)*sin(q6))/1953125000 +$$
$$(2740951021*cos(q3)*cos(q4)*sin(q6))/15625000000 +$$
$$(7618384777*cos(q3)*cos(q6)*sin(q6))/62500000000 -$$
$$(7618384777*cos(q3)*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +$$
$$(7618384777*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/125000000000 -$$
$$(7618384777*sin(q3)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 +$$
$$(2740951021*cos(q3)*cos(q5)*cos(q6)*sin(q4))/15625000000 +$$
$$(10421867*cos(q4)*cos(q5)*cos(q6)*sin(q3))/1953125000 +$$
$$(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000) +$$
$$dq4*((21105437293*cos(q3)*sin(q4))/62500000000 +$$
$$(80248811*cos(q4)*sin(q3))/7812500000 +$$
$$(2740951021*cos(q3)*cos(q6)*sin(q4))/15625000000 +$$
$$(10421867*cos(q4)*cos(q6)*sin(q3))/1953125000 +$$
$$(2740951021*cos(q3)*cos(q4)*cos(q5)*sin(q6))/15625000000 -$$
$$(7618384777*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +$$
$$(32755927981*cos(q4)*sin(q3)*sin(q5)*sin(q6))/250000000000 -$$
$$(10421867*cos(q5)*sin(q3)*sin(q4)*sin(q6))/1953125000 +$$
$$(7618384777*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 +$$
$$(7618384777*cos(q4)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000)) -$$
$$dq6*(dq3*((7618384777*cos(q5)*sin(q3))/125000000000 -$$
$$(2740951021*sin(q3)*sin(q4)*sin(q6))/15625000000 -$$
$$(7618384777*cos(q5)*cos(q6)^2*sin(q3))/125000000000 +$$
$$(7618384777*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 +$$
$$(7618384777*cos(q3)*cos(q4)*sin(q5))/125000000000 +$$
$$(2740951021*cos(q3)*cos(q6)*sin(q5))/15625000000 +$$
$$(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 +$$
$$(32755927981*cos(q4)^2*cos(q5)*cos(q6)*sin(q3))/250000000000 -$$
$$(7618384777*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +$$
$$(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 -$$
$$(7618384777*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +$$
$$(32755927981*cos(q3)*cos(q4)*cos(q6)*sin(q5))/250000000000 +$$
$$(2740951021*cos(q4)*cos(q5)*cos(q6)*sin(q3))/15625000000 -$$
$$(32755927981*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 -$$
$$(7618384777*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 -$$
$$(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -$$
$$(7618384777*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) -$$
$$dq1*((7618384777*sin(q2)*sin(q4)*sin(q5))/125000000000 +$$
$$(10421867*sin(q2)*sin(q4)*sin(q6))/1953125000 -$$
$$(7618384777*cos(q2)*cos(q5)*sin(q3))/125000000000 +$$
$$(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q3))/125000000000 -$$
$$(7618384777*cos(q2)*cos(q5)*sin(q3)*sin(q6)^2)/125000000000$$
$$ - (10421867*cos(q3)^2*sin(q2)*sin(q4)*sin(q6))/1953125000 -$$
$$(7618384777*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/125000000000 +$$
$$(7618384777*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 -$$
$$(7618384777*cos(q2)*cos(q3)*cos(q4)*sin(q5))/125000000000 -$$

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(2740951021*cos(q2)*cos(q3)*cos(q6)*sin(q5))/15625000000 -
(10421867*cos(q4)*cos(q5)*cos(q6)*sin(q2))/1953125000 -
(32755927981*cos(q3)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(2740951021*cos(q2)*sin(q3)*sin(q4)*sin(q6))/15625000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(32755927981*cos(q3)^2*cos(q6)*sin(q2)*sin(q4)*sin(q5))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +
(7618384777*cos(q3)^2*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q3)^2*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/62500000000 -
(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q5))/250000000000 -
(2740951021*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/15625000000 +
(32755927981*cos(q2)*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 -
(10421867*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/1953125000 -
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/31250000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -
(32755927981*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q3))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2))/1953125000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/
62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/250000000000
+ (7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000
+ (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/
62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000
+ (7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/
31250000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q6)^2)/62500000000)
+ dq5*((7618384777*cos(q3)*sin(q5))/125000000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q5))/125000000000 -
(7618384777*cos(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3))/125000000000 +
(32755927981*cos(q3)*cos(q6)*sin(q5))/250000000000 +
(2740951021*cos(q5)*cos(q6)*sin(q3))/15625000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 +
(2740951021*cos(q3)*cos(q4)*cos(q6)*sin(q5))/15625000000 +
(32755927981*cos(q4)*cos(q5)*cos(q6)*sin(q3))/250000000000 -
(10421867*cos(q6)*sin(q3)*sin(q4)*sin(q5))/1953125000 -
(7618384777*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) +
dq4*((32755927981*cos(q3)*sin(q6))/250000000000 -
(7618384777*sin(q3)*sin(q4)*sin(q5))/125000000000 -
(10421867*sin(q3)*sin(q4)*sin(q6))/1953125000 +
(2740951021*cos(q3)*cos(q4)*sin(q6))/15625000000 +
(7618384777*cos(q3)*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/125000000000 -
(7618384777*sin(q3)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(2740951021*cos(q3)*cos(q5)*cos(q6)*sin(q4))/15625000000 +
(10421867*cos(q4)*cos(q5)*cos(q6)*sin(q3))/1953125000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000) +
dq6*((2740951021*cos(q3)*cos(q6)*sin(q4))/15625000000 -
(2740951021*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(10421867*cos(q4)*cos(q6)*sin(q3))/1953125000 +
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(32755927981*cos(q3)*cos(q5)*sin(q6))/250000000000 +
(2740951021*cos(q3)*cos(q4)*cos(q5)*sin(q6))/15625000000 -
(32755927981*cos(q4)*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q5)*sin(q3)*sin(q4)*sin(q6))/1953125000) +
dq2*((2740951021*cos(q4)*sin(q6))/15625000000 -
(10421867*cos(q6)*sin(q5))/1953125000 - (7618384777*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q3)^2*sin(q6))/250000000000 +
(32755927981*cos(q4)^2*sin(q6))/250000000000 +
(10421867*cos(q3)^2*cos(q6)*sin(q5))/1953125000 +
(7618384777*cos(q3)^2*cos(q6)*sin(q6))/31250000000 +
(7618384777*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(32755927981*cos(q3)^2*cos(q4)^2*sin(q6))/250000000000 +
(2740951021*cos(q5)*cos(q6)*sin(q4))/15625000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 -
(10421867*cos(q3)*sin(q3)*sin(q4)*sin(q6))/1953125000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q3)*sin(q3)*sin(q4)*sin(q5)*sin(q6)^2)/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 +
(10421867*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/1953125000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q3)*cos(q6)*sin(q3)*sin(q4)*sin(q5))/250000000000 -
(32755927981*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/31250000000))
- dq1*(dq5*((7618384777*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)*sin(q2))/125000000000 + (7618384777*cos(q4)*cos(q6)^2*sin(q2))/
125000000000 - (7618384777*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 +
(2740951021*cos(q2)*cos(q3)*cos(q5)*sin(q6))/15625000000 -
(10421867*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q2)*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(2740951021*cos(q2)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
```

$$(7618384777 \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q5))/62500000000$$
$$+ (32755927981 \cdot \cos(q3) \cdot \cos(q4) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/250000000000$$
$$- (7618384777 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q5))/62500000000$$
$$+ (7618384777 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/62500000000) - dq4 \cdot ((80248811 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \sin(q2))/7812500000 - (80248811 \cdot \cos(q4) \cdot \sin(q2))/7812500000 - (237258851293 \cdot \cos(q2) \cdot \cos(q4)^2 \cdot \sin(q3))/2000000000000 - (237258851293 \cdot \cos(q2) \cdot \sin(q3))/2000000000000 - (7618384777 \cdot \cos(q2) \cdot \cos(q5)^2 \cdot \sin(q3))/125000000000 - (7618384777 \cdot \cos(q2) \cdot \cos(q6)^2 \cdot \sin(q3))/125000000000 + (237258851293 \cdot \cos(q2) \cdot \sin(q3) \cdot \sin(q4)^2)/2000000000000 - (21105437293 \cdot \cos(q2) \cdot \cos(q4) \cdot \sin(q3))/62500000000 - (32755927981 \cdot \cos(q2) \cdot \cos(q6) \cdot \sin(q3))/250000000000 - (10421867 \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2))/1953125000 - (32755927981 \cdot \cos(q2) \cdot \cos(q4)^2 \cdot \cos(q6) \cdot \sin(q3))/250000000000 + (10421867 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2))/1953125000 + (32755927981 \cdot \cos(q2) \cdot \cos(q6) \cdot \sin(q3) \cdot \sin(q4)^2)/250000000000 + (7618384777 \cdot \cos(q2) \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \sin(q3))/125000000000 - (7618384777 \cdot \cos(q2) \cdot \cos(q4)^2 \cdot \cos(q6)^2 \cdot \sin(q3))/125000000000 + (7618384777 \cdot \cos(q2) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q3))/125000000000 - (7618384777 \cdot \cos(q2) \cdot \cos(q5)^2 \cdot \sin(q3) \cdot \sin(q4)^2)/125000000000 + (7618384777 \cdot \cos(q2) \cdot \cos(q6)^2 \cdot \sin(q3) \cdot \sin(q4)^2)/125000000000 - (2740951021 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q3))/15625000000 + (7618384777 \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5))/62500000000 - (32755927981 \cdot \cos(q4) \cdot \sin(q2) \cdot \sin(q5) \cdot \sin(q6))/250000000000 + (10421867 \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/1953125000 - (7618384777 \cdot \cos(q3)^2 \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5))/62500000000 + (32755927981 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \sin(q2) \cdot \sin(q5) \cdot \sin(q6))/250000000000 - (10421867 \cdot \cos(q3)^2 \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/1953125000 - (7618384777 \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5))/62500000000 - (7618384777 \cdot \cos(q2) \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q3))/125000000000 + (237258851293 \cdot \cos(q3) \cdot \cos(q4) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/1000000000000 + (2740951021 \cdot \cos(q2) \cdot \cos(q5) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q6))/15625000000 - (7618384777 \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q5) \cdot \sin(q6))/62500000000 + (7618384777 \cdot \cos(q2) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q3) \cdot \sin(q4)^2)/125000000000$$
$$+ (7618384777 \cdot \cos(q3)^2 \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5))/62500000000 + (32755927981 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/125000000000 + (32755927981 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q6))/125000000000 - (7618384777 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/62500000000 + (7618384777 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/62500000000 + (32755927981 \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q6))/250000000000 + (7618384777 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q5) \cdot \sin(q6))/62500000000 - (32755927981 \cdot \cos(q3) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4)^2 \cdot \sin(q6))/250000000000 + (7618384777 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4))/62500000000 + (7618384777 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q6))/31250000000 + (7618384777 \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q6))/62500000000 - (7618384777 \cdot \cos(q3) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4)^2 \cdot \sin(q6))/62500000000) - dq6 \cdot ((7618384777 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5))/125000000000 + (10421867 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/1953125000 - (7618384777 \cdot \cos(q2) \cdot \cos(q5) \cdot \sin(q3))/125000000000 + (7618384777 \cdot \cos(q2) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q3))/125000000000 - (7618384777 \cdot \cos(q2) \cdot \cos(q5) \cdot \sin(q3) \cdot \sin(q6)^2)/125000000000 - (10421867 \cdot \cos(q3)^2 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/1953125000 - (7618384777 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5))/125000000000 + (7618384777 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6)^2)/125000000000 - (7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \sin(q5))/125000000000 -$$

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(2740951021*cos(q2)*cos(q3)*cos(q6)*sin(q5))/15625000000 -
(10421867*cos(q4)*cos(q5)*cos(q6)*sin(q2))/1953125000 -
(32755927981*cos(q3)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(2740951021*cos(q2)*sin(q3)*sin(q4)*sin(q6))/15625000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(32755927981*cos(q3)^2*cos(q6)*sin(q2)*sin(q4)*sin(q5))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +
(7618384777*cos(q3)^2*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q3)^2*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/62500000000 -
(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q5))/250000000000 -
(2740951021*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/15625000000 +
(32755927981*cos(q2)*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 -
(10421867*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/1953125000 -
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/31250000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -
(32755927981*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q3))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2))/1953125000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/
62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/250000000000
+ (7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000
+ (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/
62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000
+ (7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/
31250000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q6)^2)/62500000000)
+ dq1*((36647684119*cos(q2)*sin(q2))/62500000000 -
(8538821*cos(q2)^2*sin(q3))/488281250 + (8538821*sin(q2)^2*sin(q3))/488281250 -
(114870848333*cos(q2)*cos(q3)^2*sin(q2))/1000000000000 +
(237258851293*cos(q2)*cos(q4)^2*sin(q2))/1000000000000 +
(7618384777*cos(q2)*cos(q5)^2*sin(q2))/31250000000 +
(21105437293*cos(q2)^2*cos(q3)*sin(q4))/62500000000 -
(80248811*cos(q2)^2*cos(q4)*sin(q3))/7812500000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q2))/62500000000 -
(21105437293*cos(q3)*sin(q2)^2*sin(q4))/62500000000 +
(80248811*cos(q4)*sin(q2)^2*sin(q3))/7812500000 +
(21105437293*cos(q2)*cos(q4)*sin(q2))/31250000000 -
(32755927981*cos(q2)*cos(q3)^2*cos(q6)*sin(q2))/125000000000 +
(237258851293*cos(q2)^2*cos(q3)*cos(q4)*sin(q4))/1000000000000 +
(32755927981*cos(q2)*cos(q4)^2*cos(q6)*sin(q2))/125000000000 +
(2740951021*cos(q2)^2*cos(q3)*cos(q6)*sin(q4))/15625000000 -
(10421867*cos(q2)^2*cos(q4)*cos(q6)*sin(q3))/1953125000 -
(32755927981*cos(q2)^2*cos(q3)*cos(q5)*sin(q6))/250000000000 -
(237258851293*cos(q3)*cos(q4)*sin(q2)^2*sin(q4))/1000000000000 -
(2740951021*cos(q3)*cos(q6)*sin(q2)^2*sin(q4))/15625000000 +
(10421867*cos(q4)*cos(q6)*sin(q2)^2*sin(q3))/1953125000 +
(32755927981*cos(q3)*cos(q5)*sin(q2)^2*sin(q6))/250000000000 -
(2740951021*cos(q2)^2*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(2740951021*sin(q2)^2*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(237258851293*cos(q2)*cos(q3)^2*cos(q4)^2*sin(q2))/1000000000000 -
(7618384777*cos(q2)*cos(q3)^2*cos(q5)^2*sin(q2))/62500000000 -
(7618384777*cos(q2)*cos(q3)^2*cos(q6)^2*sin(q2))/31250000000 -
```

$$(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)^2*\sin(q2))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)^2*\cos(q6)^2*\sin(q2))/62500000000 -$$
$$(7618384777*\cos(q2)*\cos(q5)^2*\cos(q6)^2*\sin(q2))/31250000000 +$$
$$(2740951021*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q2))/7812500000 -$$
$$(10421867*\cos(q2)*\sin(q2)*\sin(q5)*\sin(q6))/976562500 -$$
$$(32755927981*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)^2*\sin(q4))/125000000000 -$$
$$(2740951021*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)^2*\sin(q6))/15625000000 +$$
$$(7618384777*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q2)^2*\sin(q6))/62500000000 +$$
$$(10421867*\cos(q2)*\cos(q3)^2*\sin(q2)*\sin(q5)*\sin(q6))/976562500 +$$
$$(7618384777*\cos(q2)^2*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 -$$
$$(32755927981*\cos(q2)^2*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(10421867*\cos(q2)^2*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 -$$
$$(7618384777*\cos(q5)*\sin(q2)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 +$$
$$(32755927981*\cos(q4)*\sin(q2)^2*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 -$$
$$(10421867*\cos(q5)*\sin(q2)^2*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 +$$
$$(32755927981*\cos(q2)*\cos(q3)^2*\cos(q4)^2*\cos(q6)*\sin(q2))/125000000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(32755927981*\cos(q2)^2*\cos(q3)*\cos(q4)^2*\cos(q5)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^2*\sin(q2)^2*\sin(q4))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q2)^2*\sin(q4))/62500000000 -$$
$$(32755927981*\cos(q3)*\cos(q4)^2*\cos(q5)*\sin(q2)^2*\sin(q6))/125000000000 -$$
$$(7618384777*\cos(q2)*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\sin(q2))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)^2*\cos(q4)^2*\cos(q6)^2*\sin(q2))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/62500000000 +$$
$$(80248811*\cos(q2)*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q4))/3906250000 -$$
$$(2740951021*\cos(q2)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/7812500000 +$$
$$(32755927981*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 +$$
$$(2740951021*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q6))/15625000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/31250000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q2)^2*\sin(q6))/31250000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 +$$
$$(7618384777*\cos(q5)*\cos(q6)^2*\sin(q2)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 +$$
$$(7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(10421867*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/976562500 -$$
$$(32755927981*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q2)^2*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/62500000000 -$$
$$(7618384777*\cos(q2)^2*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q4)*\cos(q6)*\sin(q2)^2*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q5))/31250000000 +$$
$$(10421867*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/976562500 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/31250000000 +$$
$$(32755927981*\cos(q2)*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/125000000000$$
$$- (32755927981*\cos(q2)*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/$$
$$125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/$$
$$31250000000 -$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/$$
$$31250000000 -$$
$$(7618384777*\cos(q2)*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/$$
$$31250000000) + dq3*((237258851293*\cos(q4)^2*\sin(q2))/2000000000000 -$$
$$(8538821*\cos(q2)*\sin(q3))/488281250 - (32755927981*\cos(q6)*\sin(q2))/250000000000 -$$
$$(114870848333*\cos(q3)^2*\sin(q2))/2000000000000 -$$
$$(359646854253*\sin(q2))/2000000000000 + (7618384777*\cos(q5)^2*\sin(q2))/125000000000$$
$$+ (114870848333*\sin(q2)*\sin(q3)^2)/2000000000000 -$$
$$(10421867*\sin(q2)*\sin(q5)*\sin(q6))/1953125000 -$$

(32755927981*cos(q3)^2*cos(q6)*sin(q2))/250000000000 +
(32755927981*cos(q4)^2*cos(q6)*sin(q2))/250000000000 +
(32755927981*cos(q6)*sin(q2)*sin(q3)^2)/250000000000 +
(237258851293*cos(q3)^2*cos(q4)^2*sin(q2))/2000000000000 -
(7618384777*cos(q3)^2*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)^2*cos(q6)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(237258851293*cos(q4)^2*sin(q2)*sin(q3)^2)/2000000000000 +
(7618384777*cos(q5)^2*sin(q2)*sin(q3)^2)/125000000000 +
(7618384777*cos(q6)^2*sin(q2)*sin(q3)^2)/62500000000
 + (21105437293*cos(q2)*cos(q3)*sin(q4))/62500000000 -
(80248811*cos(q2)*cos(q4)*sin(q3))/7812500000 +
(10421867*cos(q3)^2*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(10421867*sin(q2)*sin(q3)^2*sin(q5)*sin(q6))/1953125000 +
(32755927981*cos(q3)^2*cos(q4)^2*cos(q6)*sin(q2))/250000000000 -
(32755927981*cos(q4)^2*cos(q6)*sin(q2)*sin(q3)^2)/250000000000 +
(237258851293*cos(q2)*cos(q3)*cos(q4)*sin(q4))/1000000000000 +
(2740951021*cos(q2)*cos(q3)*cos(q6)*sin(q4))/15625000000 -
(10421867*cos(q2)*cos(q4)*cos(q6)*sin(q3))/1953125000 -
(32755927981*cos(q2)*cos(q3)*cos(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(80248811*cos(q3)*sin(q2)*sin(q3)*sin(q4))/3906250000 -
(2740951021*cos(q2)*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(7618384777*cos(q4)^2*cos(q5)^2*sin(q2)*sin(q3)^2)/125000000000 -
(7618384777*cos(q4)^2*cos(q6)^2*sin(q2)*sin(q3)^2)/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)^2)/125000000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)^2)/125000000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q4))/125000000000 +
(2740951021*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q6))/15625000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(10421867*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/976562500 +
(7618384777*cos(q2)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(32755927981*cos(q2)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q2)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/1953125000 -
(32755927981*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*sin(q6))/125000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/31250000000 +
(10421867*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/976562500 -
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 +
(32755927981*cos(q3)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/125000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/31250000000 -
(32755927981*cos(q3)^2*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q4)*cos(q5)*sin(q2)*sin(q3)^2*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/31250000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/31250000000
- (7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/
62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)^2*sin(q4)*sin(q6))/

$$
\begin{aligned}
62500000000)) &- dq2*(dq4*((21105437293*\sin(q4))/62500000000 + \\
&(237258851293*\cos(q4)*\sin(q4))/1000000000000 + \\
&(2740951021*\cos(q6)*\sin(q4))/15625000000 - \\
&(237258851293*\cos(q3)^2*\cos(q4)*\sin(q4))/1000000000000 - \\
&(7618384777*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 - \\
&(32755927981*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(80248811*\cos(q3)*\cos(q4)*\sin(q3))/7812500000 + \\
&(32755927981*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(2740951021*\cos(q4)*\cos(q5)*\sin(q6))/15625000000 - \\
&(32755927981*\cos(q3)^2*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(7618384777*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 - \\
&(32755927981*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q3)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(10421867*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 - \\
&(7618384777*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 - \\
&(10421867*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000) - \\
dq5*&((10421867*\cos(q5)*\sin(q6))/1953125000 + \\
&(2740951021*\sin(q4)*\sin(q5)*\sin(q6))/15625000000 - \\
&(7618384777*\cos(q3)^2*\cos(q5)*\sin(q5))/62500000000 - \\
&(10421867*\cos(q3)^2*\cos(q5)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q4)^2*\cos(q5)*\sin(q5))/62500000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^2*\sin(q3))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)^2)/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\sin(q5))/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 - \\
&(7618384777*\cos(q4)^2*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q4)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 - \\
&(32755927981*\cos(q3)^2*\cos(q4)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q3))/62500000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q3)*\sin(q5)^2)/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 + \\
&(10421867*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/1953125000 - \\
&(32755927981*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q4)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000) + \\
dq3*&((114870848333*\cos(q3)*\sin(q3))/1000000000000 + \\
&(80248811*\cos(q3)^2*\sin(q4))/7812500000 - (80248811*\sin(q3)^2*\sin(q4))/7812500000 - \\
&(237258851293*\cos(q3)*\cos(q4)^2*\sin(q3))/1000000000000 + \\
&(7618384777*\cos(q3)*\cos(q5)^2*\sin(q3))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q6)^2*\sin(q3))/31250000000 + \\
&(10421867*\cos(q3)^2*\cos(q6)*\sin(q4))/1953125000 - \\
&(10421867*\cos(q6)*\sin(q3)^2*\sin(q4))/1953125000 + \\
&(32755927981*\cos(q3)*\cos(q6)*\sin(q3))/125000000000 - \\
&(32755927981*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q3))/125000000000 + \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q5))/62500000000 + \\
&(10421867*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q6))/1953125000 -
\end{aligned}
$$

$$(7618384777*\cos(q4)*\cos(q5)*\sin(q3)^2*\sin(q5))/62500000000 -$$
$$(10421867*\cos(q4)*\cos(q5)*\sin(q3)^2*\sin(q6))/1953125000 +$$
$$(32755927981*\cos(q3)^2*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 -$$
$$(32755927981*\sin(q3)^2*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\sin(q3))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q6)^2*\sin(q3))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q3))/62500000000 -$$
$$(10421867*\cos(q3)*\sin(q3)*\sin(q5)*\sin(q6))/976562500 +$$
$$(7618384777*\cos(q3)^2*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q6)*\sin(q3)^2*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q3)^2*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q3))/62500000000 +$$
$$(32755927981*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/31250000000) +$$
$$dq6*((2740951021*\cos(q4)*\sin(q6))/15625000000 -$$
$$(10421867*\cos(q6)*\sin(q5))/1953125000 - (7618384777*\cos(q6)*\sin(q6))/62500000000 +$$
$$(32755927981*\cos(q3)^2*\sin(q6))/250000000000 +$$
$$(32755927981*\cos(q4)^2*\sin(q6))/250000000000 +$$
$$(10421867*\cos(q3)^2*\cos(q6)*\sin(q5))/1953125000 +$$
$$(7618384777*\cos(q3)^2*\cos(q6)*\sin(q6))/31250000000 +$$
$$(7618384777*\cos(q4)^2*\cos(q6)*\sin(q6))/62500000000 -$$
$$(32755927981*\cos(q3)^2*\cos(q4)^2*\sin(q6))/250000000000 +$$
$$(2740951021*\cos(q5)*\cos(q6)*\sin(q4))/15625000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q4))/62500000000 -$$
$$(7618384777*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6)^2)/62500000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q6)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 +$$
$$(32755927981*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q4))/250000000000 -$$
$$(10421867*\cos(q3)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 +$$
$$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q3)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6)^2)/62500000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6)^2)/62500000000 +$$
$$(10421867*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3))/1953125000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 +$$
$$(32755927981*\cos(q3)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q5))/250000000000 -$$
$$(32755927981*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q4))/250000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/31250000000))$$
$$- ddq1*((133244479*\cos(q2))/6250000000 + (8538821*\cos(q2)*\cos(q3))/488281250 +$$
$$(4734679849*\cos(q2)*\cos(q4))/500000000000 + (1915553*\sin(q2)*\sin(q3))/3906250000 +$$
$$(80248811*\sin(q2)*\sin(q4))/7812500000 -$$
$$(80248811*\cos(q3)^2*\sin(q2)*\sin(q4))/3906250000 +$$
$$(80248811*\cos(q2)*\cos(q3)*\cos(q4))/7812500000 +$$
$$(614890153*\cos(q2)*\cos(q4)*\cos(q6))/125000000000 -$$
$$(114870848333*\cos(q3)*\sin(q2)*\sin(q3))/1000000000000 +$$
$$(21105437293*\cos(q2)*\sin(q3)*\sin(q4))/62500000000 -$$
$$(4734679849*\cos(q3)*\sin(q2)*\sin(q4))/500000000000 +$$
$$(10421867*\cos(q6)*\sin(q2)*\sin(q4))/1953125000 +$$
$$(237258851293*\cos(q3)*\cos(q4)^2*\sin(q2)*\sin(q3))/1000000000000$$
$$- (7618384777*\cos(q3)*\cos(q5)^2*\sin(q2)*\sin(q3))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q2)*\sin(q3))/31250000000 -$$
$$(10421867*\cos(q3)^2*\cos(q6)*\sin(q2)*\sin(q4))/976562500 +$$
$$(10421867*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6))/1953125000 +$$
$$(237258851293*\cos(q2)*\cos(q4)*\sin(q3)*\sin(q4))/1000000000000 -$$
$$(32755927981*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3))/125000000000 +$$
$$(2740951021*\cos(q2)*\cos(q6)*\sin(q3)*\sin(q4))/15625000000 -$$
$$(614890153*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4))/125000000000 +$$

$$(2740951021 \cdot \cos(q2) \cdot \cos(q3) \cdot \sin(q5) \cdot \sin(q6))/15625000000 -$$
$$(32755927981 \cdot \cos(q2) \cdot \cos(q5) \cdot \sin(q3) \cdot \sin(q6))/250000000000 +$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q5))/62500000000 -$$
$$(614890153 \cdot \cos(q2) \cdot \cos(q5) \cdot \sin(q4) \cdot \sin(q6))/125000000000 +$$
$$(10421867 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q6))/1953125000 +$$
$$(614890153 \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q5) \cdot \sin(q6))/125000000000 +$$
$$(32755927981 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/250000000000 -$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \sin(q3) \cdot \sin(q4))/62500000000 +$$
$$(32755927981 \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3))/125000000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q6)^2 \cdot \sin(q3) \cdot \sin(q4))/62500000000 -$$
$$(7618384777 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q5))/31250000000 +$$
$$(32755927981 \cdot \cos(q2) \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \sin(q3) \cdot \sin(q6))/125000000000 -$$
$$(10421867 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q6))/976562500 -$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q5))/62500000000 -$$
$$(32755927981 \cdot \cos(q3)^2 \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/125000000000 -$$
$$(7618384777 \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \sin(q2) \cdot \sin(q3))/62500000000 +$$
$$(7618384777 \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3))/62500000000 +$$
$$(7618384777 \cdot \cos(q3) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3))/62500000000 -$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q5) \cdot \sin(q4) \cdot \sin(q5))/62500000000 +$$
$$(32755927981 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q3) \cdot \sin(q4))/125000000000 +$$
$$(32755927981 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \sin(q5) \cdot \sin(q6))/250000000000 -$$
$$(10421867 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q5) \cdot \sin(q4) \cdot \sin(q6))/1953125000 +$$
$$(2740951021 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q3) \cdot \sin(q6))/15625000000 -$$
$$(614890153 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q6))/125000000000 -$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q3) \cdot \sin(q6))/62500000000 +$$
$$(10421867 \cdot \cos(q3) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q5) \cdot \sin(q6))/976562500 +$$
$$(7618384777 \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/62500000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q3) \cdot \sin(q4))/62500000000 +$$
$$(7618384777 \cdot \cos(q3)^2 \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q5))/31250000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q5) \cdot \sin(q6))/62500000000 +$$
$$(7618384777 \cdot \cos(q3) \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q2) \cdot \sin(q3))/62500000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q4) \cdot \sin(q5))/62500000000 +$$
$$(7618384777 \cdot \cos(q2) \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q3) \cdot \sin(q6))/31250000000 -$$
$$(7618384777 \cdot \cos(q3)^2 \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q5) \cdot \sin(q6))/31250000000 -$$
$$(32755927981 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q6))/125000000000$$
$$- (7618384777 \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q2) \cdot \sin(q3) \cdot \sin(q4) \cdot \sin(q6))/$$
$$31250000000) - (8655804529431431 \cdot \cos(q2) \cdot \cos(q3) \cdot \sin(q4))/1099511627776000 -$$
$$(8992994907673531 \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q2))/2199023255552000 -$$
$$(8992994907673531 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q6) \cdot \sin(q4))/2199023255552000 +$$
$$(8992994907673531 \cdot \cos(q2) \cdot \sin(q3) \cdot \sin(q5) \cdot \sin(q6))/2199023255552000 +$$
$$(8992994907673531 \cdot \cos(q5) \cdot \sin(q2) \cdot \sin(q4) \cdot \sin(q6))/2199023255552000 -$$
$$(8992994907673531 \cdot \cos(q2) \cdot \cos(q3) \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q6))/2199023255552000;$$
$$,dq3 \cdot (dq4 \cdot ((237258851293 \cdot \cos(q4) \cdot \sin(q4))/1000000000000 -$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \sin(q4))/62500000000 +$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q6)^2 \cdot \sin(q4))/62500000000 +$$
$$(32755927981 \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \sin(q6))/250000000000 -$$
$$(32755927981 \cdot \cos(q5) \cdot \sin(q4)^2 \cdot \sin(q6))/250000000000 +$$
$$(32755927981 \cdot \cos(q4) \cdot \cos(q6) \cdot \sin(q4))/125000000000 +$$
$$(7618384777 \cdot \cos(q4)^2 \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q6))/62500000000 -$$
$$(7618384777 \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q4)^2 \cdot \sin(q6))/62500000000 +$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q5)^2 \cdot \cos(q6)^2 \cdot \sin(q4))/62500000000) +$$
$$dq6 \cdot ((10421867 \cdot \cos(q6) \cdot \sin(q5))/1953125000 - (32755927981 \cdot \sin(q6))/250000000000 +$$
$$(32755927981 \cdot \cos(q4)^2 \cdot \sin(q6))/250000000000 +$$
$$(7618384777 \cdot \cos(q4)^2 \cdot \cos(q6) \cdot \sin(q6))/62500000000 -$$
$$(7618384777 \cdot \cos(q5)^2 \cdot \cos(q6) \cdot \sin(q6))/62500000000 +$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6)^2 \cdot \sin(q4))/62500000000 -$$
$$(7618384777 \cdot \cos(q4) \cdot \cos(q5) \cdot \sin(q4) \cdot \sin(q6)^2)/62500000000 +$$
$$(7618384777 \cdot \cos(q4)^2 \cdot \cos(q5)^2 \cdot \cos(q6) \cdot \sin(q6))/62500000000 +$$
$$(32755927981 \cdot \cos(q4) \cdot \cos(q5) \cdot \cos(q6) \cdot \sin(q4))/250000000000) -$$

```
dq5*((7618384777*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q5)*sin(q6))/1953125000 - (7618384777*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(32755927981*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000)) -
dq5*(dq4*((7618384777*sin(q4))/125000000000 -
(7618384777*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*sin(q4)*sin(q5)^2)/125000000000 +
(10421867*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000) +
dq5*((32755927981*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q4)*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000) +
dq2*((7618384777*cos(q3)*sin(q4))/125000000000 +
(32755927981*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(10421867*cos(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(7618384777*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000) -
dq6*((7618384777*cos(q5)*sin(q4))/125000000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q5)*sin(q4)*sin(q6)^2)/125000000000 +
(10421867*cos(q4)*cos(q6)*sin(q5))/1953125000 +
(32755927981*cos(q5)*cos(q6)*sin(q4))/250000000000 +
(7618384777*cos(q4)*cos(q6)*sin(q6))/62500000000) +
dq3*((7618384777*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q5)*sin(q6))/1953125000 - (7618384777*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(32755927981*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000) +
dq1*((7618384777*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q2)*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q3)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 +
(32755927981*cos(q2)*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(10421867*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
```

$$
\begin{aligned}
&(7618384777*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/ \\
&62500000000)) + ddq1*((359646854253*\cos(q2))/1000000000000 + \\
&(1915553*\cos(q2)*\cos(q3))/3906250000 + (32755927981*\cos(q2)*\cos(q6))/125000000000 - \\
&(8538821*\sin(q2)*\sin(q3))/488281250 - \\
&(237258851293*\cos(q2)*\cos(q4)^2)/1000000000000 - \\
&(7618384777*\cos(q2)*\cos(q5)^2)/62500000000 - \\
&(32755927981*\cos(q2)*\cos(q4)^2*\cos(q6))/125000000000 + \\
&(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)^2)/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q4)^2*\cos(q6)^2)/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q5)^2*\cos(q6)^2)/62500000000 + \\
&(4734679849*\cos(q2)*\sin(q3)*\sin(q4))/500000000000 + \\
&(21105437293*\cos(q3)*\sin(q2)*\sin(q4))/62500000000 - \\
&(80248811*\cos(q4)*\sin(q2)*\sin(q3))/7812500000 + (10421867*\cos(q2)*\sin(q5)*\sin(q6))/ \\
&976562500 - (7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2)/62500000000 + \\
&(237258851293*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q4))/1000000000000 + \\
&(614890153*\cos(q2)*\cos(q6)*\sin(q3)*\sin(q4))/125000000000 + \\
&(2740951021*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4))/15625000000 - \\
&(10421867*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q3))/1953125000 + \\
&(614890153*\cos(q2)*\cos(q3)*\sin(q5)*\sin(q6))/125000000000 - \\
&(32755927981*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q6))/250000000000 - \\
&(2740951021*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6))/15625000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^2*\sin(q2)*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q2)*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)^2*\cos(q5)*\sin(q2)*\sin(q6))/125000000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q4))/125000000000 + \\
&(614890153*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q6))/125000000000 + \\
&(2740951021*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q6))/15625000000 + \\
&(32755927981*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6))/125000000000 - \\
&(7618384777*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 - \\
&(32755927981*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 + \\
&(10421867*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q4)*\sin(q6))/31250000000 - \\
&(7618384777*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q6))/31250000000 - \\
&(7618384777*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000) + \\
&ddq6*((7618384777*\sin(q4)*\sin(q5))/62500000000 + \\
&(10421867*\sin(q4)*\sin(q6))/1953125000 - \\
&(10421867*\cos(q4)*\cos(q5)*\cos(q6))/1953125000 + \\
&(32755927981*\cos(q6)*\sin(q4)*\sin(q5))/250000000000) + \\
&(\sin(q2)*(2868804401778059640832*\cos(q3) + 5539714898836115 8950912*\sin(q3)*\sin(q4) \\
&+ 28777583704555296653312*\cos(q6)*\sin(q3)*\sin(q4) + \\
&28777583704555296653312*\cos(q3)*\sin(q5)*\sin(q6) + \\
&28777583704555296653312*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q6)))/703687441776640 0000000 + \\
&ddq3*((32755927981*\cos(q6))/125000000000 + (10421867*\sin(q5)*\sin(q6))/976562500 - \\
&(237258851293*\cos(q4)^2)/1000000000000 - (7618384777*\cos(q5)^2)/62500000000 - \\
&(32755927981*\cos(q4)^2*\cos(q6))/125000000000 + \\
&(7618384777*\cos(q4)^2*\cos(q5)^2)/62500000000 - \\
&(7618384777*\cos(q4)^2*\cos(q6)^2)/62500000000 + \\
&(7618384777*\cos(q5)^2*\cos(q6)^2)/62500000000 - \\
&(7618384777*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2)/62500000000 + \\
&(32755927981*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6))/125000000000 + \\
&(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q4)*\sin(q6))/31250000000 + \\
&809852719399391/2251799813685248) - ddq2*((8538821*\cos(q3))/488281250 + \\
&(80248811*\cos(q3)*\cos(q4))/7812500000 + (21105437293*\sin(q3)*\sin(q4))/62500000000 + \\
&(10421867*\cos(q3)*\cos(q4)*\cos(q6))/1953125000 + \\
&(237258851293*\cos(q4)*\sin(q3)*\sin(q4))/1000000000000 +
\end{aligned}
$$

```
(2740951021*cos(q6)*sin(q3)*sin(q4))/15625000000 +
(2740951021*cos(q3)*sin(q5)*sin(q6))/15625000000 -
(32755927981*cos(q5)*sin(q3)*sin(q6))/250000000000 -
(7618384777*cos(q4)*cos(q5)^2*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q4)^2*cos(q5)*sin(q3)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q5)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q4)*cos(q6)*sin(q3)*sin(q4))/125000000000 +
(32755927981*cos(q3)*cos(q4)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q3)*cos(q5)*sin(q4)*sin(q6))/1953125000 +
(2740951021*cos(q4)*cos(q5)*sin(q3)*sin(q6))/15625000000 -
(7618384777*cos(q5)*cos(q6)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q4)^2*cos(q5)*cos(q6)*sin(q3)*sin(q6))/31250000000 +
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q5)*sin(q6))/62500000000) +
dq1*(dq6*((32755927981*cos(q2)*cos(q4)^2*sin(q6))/250000000000 -
(32755927981*cos(q2)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)*sin(q2))/125000000000 +
(10421867*cos(q2)*cos(q6)*sin(q5))/1953125000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q6)^2)/125000000000 -
(32755927981*cos(q3)*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5))/125000000000 +
(10421867*cos(q4)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000
 - (7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/125000000000 +
(7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q6)^2)/62500000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 -
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(10421867*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/1953125000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000)
+ dq2*((237258851293*cos(q4)^2*sin(q2))/2000000000000 -
(8538821*cos(q2)*sin(q3))/488281250 - (32755927981*cos(q6)*sin(q2))/250000000000 -
(114870848333*cos(q3)^2*sin(q2))/2000000000000 -
(359646854253*sin(q2))/2000000000000 + (7618384777*cos(q5)^2*sin(q2))/125000000000
+ (114870848333*sin(q2)*sin(q3)^2)/2000000000000 -
(10421867*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q6)*sin(q2))/250000000000 +
(32755927981*cos(q4)^2*cos(q6)*sin(q2))/250000000000 +
(32755927981*cos(q6)*sin(q2)*sin(q3)^2)/250000000000 +
(237258851293*cos(q3)^2*cos(q4)^2*sin(q2))/2000000000000 -
(7618384777*cos(q3)^2*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)^2*cos(q6)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(237258851293*cos(q4)^2*sin(q2)*sin(q3)^2)/2000000000000 +
(7618384777*cos(q5)^2*sin(q2)*sin(q3)^2)/125000000000 +
(7618384777*cos(q6)^2*sin(q2)*sin(q3)^2)/62500000000 +
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$$(21105437293*\cos(q2)*\cos(q3)*\sin(q4))/62500000000 -$$
$$(80248811*\cos(q2)*\cos(q4)*\sin(q3))/7812500000 +$$
$$(10421867*\cos(q3)^2*\sin(q2)*\sin(q5)*\sin(q6))/1953125000 -$$
$$(10421867*\sin(q2)*\sin(q3)^2*\sin(q5)*\sin(q6))/1953125000 +$$
$$(32755927981*\cos(q3)^2*\cos(q4)^2*\cos(q6)*\sin(q2))/250000000000 -$$
$$(32755927981*\cos(q4)^2*\cos(q6)*\sin(q2)*\sin(q3)^2)/250000000000 +$$
$$(237258851293*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q4))/1000000000000 +$$
$$(2740951021*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q4))/15625000000 -$$
$$(10421867*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 -$$
$$(32755927981*\cos(q2)*\cos(q3)*\cos(q5)*\sin(q6))/250000000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q3)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(80248811*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q4))/3906250000 -$$
$$(2740951021*\cos(q2)*\sin(q3)*\sin(q5)*\sin(q6))/15625000000 +$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\sin(q2)*\sin(q3)^2)/125000000000 -$$
$$(7618384777*\cos(q4)^2*\cos(q6)^2*\sin(q2)*\sin(q3)^2)/125000000000 -$$
$$(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q3)^2)/125000000000 +$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000 -$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q3)^2)/125000000000 +$$
$$(32755927981*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 +$$
$$(2740951021*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q6))/15625000000 -$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 +$$
$$(10421867*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/976562500 +$$
$$(7618384777*\cos(q2)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 -$$
$$(32755927981*\cos(q2)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(10421867*\cos(q2)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 -$$
$$(32755927981*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/250000000000 -$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(32755927981*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q5))/31250000000 +$$
$$(10421867*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/976562500 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000 +$$
$$(32755927981*\cos(q3)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/31250000000 -$$
$$(32755927981*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/250000000000 -$$
$$(7618384777*\cos(q2)*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 +$$
$$(32755927981*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)^2*\sin(q4)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/31250000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/31250000000$$
$$- (7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)^2*\sin(q4)*\sin(q6))/62500000000)$$
$$+ dq4*((80248811*\sin(q2)*\sin(q3)*\sin(q4))/7812500000 -$$
$$(237258851293*\cos(q3)*\sin(q2))/2000000000000 +$$
$$(237258851293*\cos(q3)*\cos(q4)^2*\sin(q2))/2000000000000 -$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\sin(q2))/125000000000 -$$
$$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q2))/125000000000 -$$
$$(237258851293*\cos(q3)*\sin(q2)*\sin(q4)^2)/2000000000000 +$$
$$(237258851293*\cos(q2)*\cos(q4)*\sin(q4))/1000000000000 -$$
$$(32755927981*\cos(q3)*\cos(q6)*\sin(q2))/250000000000 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 +$$
$$(32755927981*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2))/250000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(32755927981*\cos(q2)*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 -$$

(32755927981*cos(q3)*cos(q6)*sin(q2)*sin(q4)^2)/250000000000 -
(32755927981*cos(q2)*cos(q5)*sin(q4)^2*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q5)^2*sin(q2)*sin(q4)^2)/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q4)^2)/125000000000 +
(32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q4))/125000000000 +
(10421867*cos(q6)*sin(q2)*sin(q3)*sin(q4))/1953125000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q4)^2*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q4)^2)/125000000000 +
(32755927981*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/62500000000 -
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/125000000000 +
(7618384777*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/31250000000) -
dq5*((7618384777*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q2)*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q3)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 +
(32755927981*cos(q2)*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(10421867*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000)
+ dq1*((1915553*sin(q3))/3906250000 - (114870848333*cos(q3)*sin(q3))/1000000000000
- (4734679849*cos(q3)*sin(q4))/500000000000 -
(80248811*cos(q3)^2*sin(q4))/7812500000 + (80248811*sin(q3)^2*sin(q4))/7812500000 +
(614890153*sin(q3)*sin(q5)*sin(q6))/125000000000 +
(114870848333*cos(q2)^2*cos(q3)*sin(q3))/1000000000000 +
(237258851293*cos(q3)*cos(q4)^2*sin(q3))/1000000000000 -
(7618384777*cos(q3)*cos(q5)^2*sin(q3))/62500000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q3))/31250000000 -
(10421867*cos(q3)^2*cos(q6)*sin(q4))/1953125000 +
(10421867*cos(q6)*sin(q3)^2*sin(q4))/1953125000 +
(80248811*cos(q2)^2*cos(q3)^2*sin(q4))/7812500000 -
(80248811*cos(q2)^2*sin(q3)^2*sin(q4))/7812500000 +
(8538821*cos(q2)*cos(q3)*sin(q2))/488281250 -
(32755927981*cos(q3)*cos(q6)*sin(q3))/125000000000 -
(614890153*cos(q3)*cos(q6)*sin(q4))/125000000000 +
(32755927981*cos(q2)^2*cos(q3)*cos(q6)*sin(q3))/125000000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q6)*sin(q3))/125000000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*sin(q5))/62500000000 -

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(10421867*cos(q3)^2*cos(q4)*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)^2*sin(q5))/62500000000 +
(10421867*cos(q4)*cos(q5)*sin(q3)^2*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(32755927981*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000
 - (237258851293*cos(q2)^2*cos(q3)*cos(q4)^2*sin(q3))/1000000000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q6)^2*sin(q3))/31250000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q3))/62500000000 +
(10421867*cos(q2)^2*cos(q3)^2*cos(q6)*sin(q4))/1953125000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(10421867*cos(q2)^2*cos(q6)*sin(q3)^2*sin(q4))/1953125000 +
(80248811*cos(q2)*cos(q3)*cos(q4)*sin(q2))/7812500000 -
(614890153*cos(q3)*cos(q4)*cos(q5)*sin(q6))/125000000000 +
(21105437293*cos(q2)*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(10421867*cos(q3)*sin(q3)*sin(q5)*sin(q6))/976562500 -
(10421867*cos(q2)^2*cos(q3)*sin(q3)*sin(q5)*sin(q6))/976562500 -
(7618384777*cos(q3)^2*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q6)*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(32755927981*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q6)*sin(q3))/125000000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*sin(q5))/62500000000 +
(10421867*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q2)^2*cos(q4)*cos(q5)*sin(q3)^2*sin(q5))/62500000000 -
(10421867*cos(q2)^2*cos(q4)*cos(q5)*sin(q3)^2*sin(q6))/1953125000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)^2*sin(q5))/62500000000 +
(32755927981*cos(q2)^2*cos(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(32755927981*cos(q2)^2*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q2))/1953125000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q3))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 +
(237258851293*cos(q2)*cos(q4)*sin(q2)*sin(q3)*sin(q4))/1000000000000 +
(2740951021*cos(q2)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/15625000000 +
(2740951021*cos(q2)*cos(q3)*sin(q2)*sin(q5)*sin(q6))/15625000000 -
(32755927981*cos(q2)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q2)^2*cos(q6)*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q2)*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/1953125000 +
(2740951021*cos(q2)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/15625000000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 -
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 +
(7618384777*cos(q2)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)^2*sin(q5))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q2)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q6))/125000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/
62500000000 + (7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/
62500000000 - (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/
31250000000 +
(7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000
 + (32755927981*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/
```

$$
\begin{aligned}
&125000000000 + \\
&(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/31250000000 \\
&+ (7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/ \\
&31250000000)) + dq4*(dq2*((237258851293*\sin(q3))/2000000000000 + \\
&(80248811*\cos(q3)*\sin(q4))/7812500000 + (32755927981*\cos(q6)*\sin(q3))/250000000000 \\
&- (237258851293*\cos(q4)^2*\sin(q3))/2000000000000 + \\
&(7618384777*\cos(q5)^2*\sin(q3))/125000000000 + \\
&(7618384777*\cos(q6)^2*\sin(q3))/125000000000 + \\
&(237258851293*\sin(q3)*\sin(q4)^2)/2000000000000 - \\
&(32755927981*\cos(q4)^2*\cos(q6)*\sin(q3))/250000000000 + \\
&(32755927981*\cos(q6)*\sin(q3)*\sin(q4)^2)/250000000000 + \\
&(7618384777*\cos(q4)^2*\cos(q5)^2*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q4)^2*\cos(q6)^2*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q5)^2*\sin(q3)*\sin(q4)^2)/125000000000 + \\
&(7618384777*\cos(q6)^2*\sin(q3)*\sin(q4)^2)/125000000000 + \\
&(10421867*\cos(q3)*\cos(q6)*\sin(q4))/1953125000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q5))/62500000000 + \\
&(10421867*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q6))/1953125000 - \\
&(7618384777*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q3))/125000000000 + \\
&(32755927981*\cos(q3)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q3)*\sin(q4)^2)/125000000000 + \\
&(32755927981*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 + \\
&(7618384777*\cos(q3)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 + \\
&(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/31250000000) - \\
&dq5*((7618384777*\sin(q4))/125000000000 - \\
&(7618384777*\cos(q5)^2*\sin(q4))/125000000000 - \\
&(7618384777*\cos(q6)^2*\sin(q4))/125000000000 + \\
&(7618384777*\sin(q4)*\sin(q5)^2)/125000000000 + \\
&(10421867*\sin(q4)*\sin(q5)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q4))/125000000000 - \\
&(7618384777*\cos(q6)^2*\sin(q4)*\sin(q5)^2)/125000000000) + \\
&dq3*((237258851293*\cos(q4)*\sin(q4))/1000000000000 - \\
&(7618384777*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 - \\
&(32755927981*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(32755927981*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(7618384777*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000) + \\
&dq6*((7618384777*\cos(q4)*\sin(q5))/125000000000 + \\
&(10421867*\cos(q4)*\sin(q6))/1953125000 - \\
&(7618384777*\cos(q4)*\cos(q6)^2*\sin(q5))/125000000000 + \\
&(7618384777*\cos(q4)*\sin(q5)*\sin(q6)^2)/125000000000 + \\
&(10421867*\cos(q5)*\cos(q6)*\sin(q4))/1953125000 + \\
&(7618384777*\cos(q5)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000) + \\
&dq1*((80248811*\sin(q2)*\sin(q3)*\sin(q4))/7812500000 - \\
&(237258851293*\cos(q3)*\sin(q2))/2000000000000 + \\
&(237258851293*\cos(q3)*\cos(q4)^2*\sin(q2))/2000000000000 - \\
&(7618384777*\cos(q3)*\cos(q5)^2*\sin(q2))/125000000000 - \\
&(7618384777*\cos(q3)*\cos(q6)^2*\sin(q2))/125000000000 - \\
&(237258851293*\cos(q3)*\sin(q2)*\sin(q4)^2)/2000000000000 + \\
&(237258851293*\cos(q2)*\cos(q4)*\sin(q4))/1000000000000 - \\
&(32755927981*\cos(q3)*\cos(q6)*\sin(q2))/250000000000 - \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2))/250000000000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 +
\end{aligned}
$$

$$(32755927981*\cos(q2)*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 -$$
$$(32755927981*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4)^2)/250000000000 -$$
$$(32755927981*\cos(q2)*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\sin(q2)*\sin(q4)^2)/125000000000 -$$
$$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/125000000000 +$$
$$(32755927981*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 +$$
$$(10421867*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/1953125000 -$$
$$(7618384777*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 +$$
$$(10421867*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/1953125000 -$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/125000000000 +$$
$$(32755927981*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 -$$
$$(32755927981*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/31250000000) +$$
$$dq4*((80248811*\sin(q4))/7812500000 + (10421867*\cos(q6)*\sin(q4))/1953125000 +$$
$$(32755927981*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\sin(q5))/62500000000 +$$
$$(10421867*\cos(q4)*\cos(q5)*\sin(q6))/1953125000 -$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 +$$
$$(7618384777*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000)) +$$
$$dq2*(dq4*((237258851293*\sin(q3))/2000000000000 +$$
$$(80248811*\cos(q3)*\sin(q4))/7812500000 + (32755927981*\cos(q6)*\sin(q3))/250000000000$$
$$- (237258851293*\cos(q4)^2*\sin(q3))/2000000000000 +$$
$$(7618384777*\cos(q5)^2*\sin(q3))/125000000000 +$$
$$(7618384777*\cos(q6)^2*\sin(q3))/125000000000 +$$
$$(237258851293*\sin(q3)*\sin(q4)^2)/2000000000000 -$$
$$(32755927981*\cos(q4)^2*\cos(q6)*\sin(q3))/250000000000 +$$
$$(32755927981*\cos(q6)*\sin(q3)*\sin(q4)^2)/250000000000 +$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\sin(q3))/125000000000 -$$
$$(7618384777*\cos(q4)^2*\cos(q6)^2*\sin(q3))/125000000000 -$$
$$(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q3))/125000000000 -$$
$$(7618384777*\cos(q5)^2*\sin(q3)*\sin(q4)^2)/125000000000 +$$
$$(7618384777*\cos(q6)^2*\sin(q3)*\sin(q4)^2)/125000000000 +$$
$$(10421867*\cos(q3)*\cos(q6)*\sin(q4))/1953125000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q5))/62500000000 +$$
$$(10421867*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q6))/1953125000 -$$
$$(7618384777*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q3))/125000000000 +$$
$$(32755927981*\cos(q3)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000$$
$$+ (7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q3)*\sin(q4)^2)/125000000000 +$$
$$(32755927981*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/31250000000) +$$
$$dq6*((7618384777*\cos(q5)*\sin(q3))/125000000000 +$$
$$(7618384777*\cos(q5)*\cos(q6)^2*\sin(q3))/125000000000 -$$
$$(7618384777*\cos(q5)*\sin(q3)*\sin(q6)^2)/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\sin(q5))/125000000000 +$$
$$(10421867*\cos(q3)*\cos(q4)*\sin(q6))/1953125000 +$$
$$(32755927981*\cos(q5)*\cos(q6)*\sin(q3))/250000000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q5))/125000000000 -$$
$$(32755927981*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q3))/250000000000 +$$

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(7618384777*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 -
(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +
(10421867*cos(q3)*cos(q5)*cos(q6)*sin(q4))/1953125000 +
(32755927981*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) +
dq1*((237258851293*cos(q4)^2*sin(q2))/2000000000000 -
(8538821*cos(q2)*sin(q3))/488281250 - (32755927981*cos(q6)*sin(q2))/250000000000 -
(114870848333*cos(q3)^2*sin(q2))/2000000000000 -
(359646854253*sin(q2))/2000000000000 + (7618384777*cos(q5)^2*sin(q2))/125000000000
+ (114870848333*sin(q2)*sin(q3)^2)/2000000000000 -
(10421867*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q6)*sin(q2))/250000000000 +
(32755927981*cos(q4)^2*cos(q6)*sin(q2))/250000000000 +
(32755927981*cos(q6)*sin(q2)*sin(q3)^2)/250000000000 +
(237258851293*cos(q3)^2*cos(q4)^2*sin(q2))/2000000000000 -
(7618384777*cos(q3)^2*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)^2*cos(q6)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(237258851293*cos(q4)^2*sin(q2)*sin(q3)^2)/2000000000000 +
(7618384777*cos(q5)^2*sin(q2)*sin(q3)^2)/125000000000 +
(7618384777*cos(q6)^2*sin(q2)*sin(q3)^2)/62500000000 +
(21105437293*cos(q2)*cos(q3)*sin(q4))/62500000000 -
(80248811*cos(q2)*cos(q4)*sin(q3))/7812500000 +
(10421867*cos(q3)^2*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(10421867*sin(q2)*sin(q3)^2*sin(q5)*sin(q6))/1953125000 +
(32755927981*cos(q3)^2*cos(q4)^2*cos(q6)*sin(q2))/250000000000 -
(32755927981*cos(q4)^2*cos(q6)*sin(q2)*sin(q3)^2)/250000000000 +
(237258851293*cos(q2)*cos(q3)*cos(q4)*sin(q4))/1000000000000 +
(2740951021*cos(q2)*cos(q3)*cos(q6)*sin(q4))/15625000000 -
(10421867*cos(q2)*cos(q4)*cos(q6)*sin(q3))/1953125000 -
(32755927981*cos(q2)*cos(q3)*cos(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(80248811*cos(q3)*sin(q2)*sin(q3)*sin(q4))/3906250000 -
(2740951021*cos(q2)*sin(q3)*sin(q5)*sin(q6))/15625000000 +
(7618384777*cos(q4)^2*cos(q5)^2*sin(q2)*sin(q3)^2)/125000000000 -
(7618384777*cos(q4)^2*cos(q6)^2*sin(q2)*sin(q3)^2)/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)^2)/125000000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)^2)/125000000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q4))/125000000000 +
(2740951021*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q6))/15625000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(10421867*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/976562500 +
(7618384777*cos(q2)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(32755927981*cos(q2)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q2)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/1953125000 -
(32755927981*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*sin(q6))/125000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 +
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(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/31250000000 +
(10421867*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/976562500 -
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 +
(32755927981*cos(q3)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/125000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/31250000000 -
(32755927981*cos(q3)^2*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q4)*cos(q5)*sin(q2)*sin(q3)^2*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/31250000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/31250000000
- (7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/
62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)^2*sin(q4)*sin(q6))/62500000000)
- dq5*((7618384777*cos(q3)*sin(q4))/125000000000 +
(32755927981*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(10421867*cos(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(7618384777*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000) +
dq2*((114870848333*cos(q3)*sin(q3))/1000000000000 +
(80248811*cos(q3)^2*sin(q4))/7812500000 - (80248811*sin(q3)^2*sin(q4))/7812500000 -
(237258851293*cos(q3)*cos(q4)^2*sin(q3))/1000000000000 +
(7618384777*cos(q3)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q3))/31250000000 +
(10421867*cos(q3)^2*cos(q6)*sin(q4))/1953125000 -
(10421867*cos(q6)*sin(q3)^2*sin(q4))/1953125000 +
(32755927981*cos(q3)*cos(q6)*sin(q3))/125000000000 -
(32755927981*cos(q3)*cos(q4)^2*cos(q6)*sin(q3))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*sin(q5))/62500000000 +
(10421867*cos(q3)^2*cos(q4)*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q4)*cos(q5)*sin(q3)^2*sin(q5))/62500000000 -
(10421867*cos(q4)*cos(q5)*sin(q3)^2*sin(q6))/1953125000 +
(32755927981*cos(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(32755927981*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q3))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(10421867*cos(q3)*sin(q3)*sin(q5)*sin(q6))/976562500 +
(7618384777*cos(q3)^2*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q6)*sin(q3)^2*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)^2*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/31250000000))
+ ddq5*((7618384777*cos(q4))/62500000000 -
(7618384777*cos(q4)*cos(q6)^2)/62500000000 +
(10421867*cos(q4)*sin(q5)*sin(q6))/1953125000 +
(32755927981*cos(q5)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q5)*cos(q6)*sin(q4)*sin(q6))/62500000000) +
dq6*(dq2*((7618384777*cos(q5)*sin(q3))/125000000000 +
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(7618384777*cos(q5)*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q5))/125000000000 +
(10421867*cos(q3)*cos(q4)*sin(q6))/1953125000 +
(32755927981*cos(q5)*cos(q6)*sin(q3))/250000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -
(32755927981*cos(q4)^2*cos(q5)*cos(q6)*sin(q3))/250000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 -
(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +
(10421867*cos(q3)*cos(q5)*cos(q6)*sin(q4))/1953125000 +
(32755927981*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) +
dq1*((32755927981*cos(q2)*cos(q4)^2*sin(q6))/250000000000 -
(32755927981*cos(q2)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)*sin(q2))/125000000000 +
(10421867*cos(q2)*cos(q6)*sin(q5))/1953125000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q6)^2)/125000000000 -
(32755927981*cos(q3)*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5))/125000000000 +
(10421867*cos(q4)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/125000000000
 + (7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q6)^2)/62500000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 -
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(10421867*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/1953125000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000)
+ dq4*((7618384777*cos(q4)*sin(q5))/125000000000 +
(10421867*cos(q4)*sin(q6))/1953125000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q5))/125000000000 +
(7618384777*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(10421867*cos(q5)*cos(q6)*sin(q4))/1953125000 +
(7618384777*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000) +
dq3*((10421867*cos(q6)*sin(q5))/1953125000 - (32755927981*sin(q6))/250000000000 +
(32755927981*cos(q4)^2*sin(q6))/250000000000 +
(7618384777*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 +
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000) +
dq5*((7618384777*cos(q5)*sin(q4))/125000000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q5)*sin(q4)*sin(q6)^2)/125000000000 +
(10421867*cos(q4)*cos(q6)*sin(q5))/1953125000 +
(32755927981*cos(q5)*cos(q6)*sin(q4))/250000000000 +
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(7618384777*cos(q4)*cos(q6)*sin(q6))/62500000000) +
dq6*((10421867*cos(q6)*sin(q4))/1953125000 - (32755927981*sin(q4)*sin(q5)*sin(q6))/
250000000000 + (10421867*cos(q4)*cos(q5)*sin(q6))/1953125000)) -
ddq4*((80248811*cos(q4))/7812500000 + (10421867*cos(q4)*cos(q6))/1953125000 -
(7618384777*cos(q5)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q4)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q5)*sin(q4)*sin(q6))/1953125000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q4)*cos(q6)*sin(q5)*sin(q6))/62500000000);
,ddq1*((237258851293*sin(q2)*sin(q3))/1000000000000 -
(80248811*cos(q2)*cos(q4))/7812500000 + (4734679849*sin(q2)*sin(q4))/500000000000 +
(7618384777*cos(q5)^2*sin(q2)*sin(q3))/62500000000 +
(7618384777*cos(q6)^2*sin(q2)*sin(q3))/62500000000 -
(4734679849*cos(q2)*cos(q3)*cos(q4))/500000000000 -
(10421867*cos(q2)*cos(q4)*cos(q6))/1953125000 + (80248811*cos(q3)*sin(q2)*sin(q4))/
7812500000 + (21105437293*cos(q4)*sin(q2)*sin(q3))/62500000000 +
(32755927981*cos(q6)*sin(q2)*sin(q3))/125000000000 +
(614890153*cos(q6)*sin(q2)*sin(q4))/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3))/62500000000 -
(614890153*cos(q2)*cos(q3)*cos(q4)*cos(q6))/125000000000 +
(10421867*cos(q3)*cos(q6)*sin(q2)*sin(q4))/1953125000 +
(2740951021*cos(q4)*cos(q6)*sin(q2)*sin(q3))/15625000000 +
(7618384777*cos(q2)*cos(q5)*sin(q4)*sin(q5))/62500000000 -
(32755927981*cos(q2)*cos(q4)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q2)*cos(q5)*sin(q4)*sin(q6))/1953125000 +
(614890153*cos(q4)*cos(q5)*sin(q2)*sin(q6))/125000000000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q5))/62500000000 +
(614890153*cos(q2)*cos(q3)*cos(q5)*sin(q4)*sin(q6))/125000000000 +
(10421867*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6))/1953125000 -
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q5)*sin(q6))/62500000000 +
(32755927981*cos(q3)*sin(q2)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(2740951021*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q6))/15625000000 +
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q5))/62500000000) -
(8655804529431431*cos(q2)*sin(q4))/1099511627776000 -
dq5*(dq4*((7618384777*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q5))/62500000000) +
dq5*((32755927981*cos(q5)*sin(q6))/250000000000 +
(7618384777*cos(q5)*cos(q6)*sin(q6))/62500000000) +
dq3*((7618384777*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q5)^2*sin(q4))/125000000000 - (7618384777*sin(q4))/125000000000 +
(7618384777*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(32755927981*cos(q4)*cos(q5)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000) -
dq1*((7618384777*cos(q2)*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q6))/250000000000 -
(7618384777*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
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(7618384777*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000) +
dq6*((7618384777*sin(q5))/125000000000 + (32755927981*cos(q6)*sin(q5))/250000000000
+ (7618384777*cos(q6)^2*sin(q5))/125000000000 -
(7618384777*sin(q5)*sin(q6)^2)/125000000000) +
dq2*((7618384777*cos(q4)*sin(q3))/125000000000 +
(7618384777*cos(q4)*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*sin(q3)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/125000000000 +
(32755927981*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000)) -
ddq2*((80248811*sin(q3)*sin(q4))/7812500000 -
(21105437293*cos(q3)*cos(q4))/62500000000 -
(32755927981*cos(q3)*cos(q6))/125000000000 - (237258851293*cos(q3))/1000000000000 -
(7618384777*cos(q3)*cos(q5)^2)/62500000000 -
(7618384777*cos(q3)*cos(q6)^2)/62500000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2)/62500000000 -
(2740951021*cos(q3)*cos(q4)*cos(q6))/15625000000 +
(10421867*cos(q6)*sin(q3)*sin(q4))/1953125000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q5))/62500000000 +
(2740951021*cos(q3)*cos(q5)*sin(q4)*sin(q6))/15625000000 +
(10421867*cos(q4)*cos(q5)*sin(q3)*sin(q6))/1953125000 +
(32755927981*sin(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q5))/62500000000 +
(7618384777*cos(q6)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/62500000000) -
dq2*(dq3*((237258851293*sin(q3))/2000000000000 +
(80248811*cos(q3)*sin(q4))/7812500000 + (32755927981*cos(q6)*sin(q3))/250000000000
- (237258851293*cos(q4)^2*sin(q3))/2000000000000 +
(7618384777*cos(q5)^2*sin(q3))/125000000000 +
(7618384777*cos(q6)^2*sin(q3))/125000000000 +
(237258851293*sin(q3)*sin(q4)^2)/2000000000000 -
(32755927981*cos(q4)^2*cos(q6)*sin(q3))/250000000000 +
(32755927981*cos(q6)*sin(q3)*sin(q4)^2)/250000000000 +
(7618384777*cos(q4)^2*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)^2*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q5)^2*sin(q3)*sin(q4)^2)/125000000000 +
(7618384777*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +
(10421867*cos(q3)*cos(q6)*sin(q4))/1953125000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q5))/62500000000 +
(10421867*cos(q3)*cos(q4)*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +
(32755927981*cos(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +
(32755927981*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/31250000000) +
dq1*((80248811*cos(q3)^2*cos(q4)*sin(q2))/7812500000 -
(80248811*cos(q4)*sin(q2))/7812500000 -
(237258851293*cos(q2)*cos(q4)^2*sin(q3))/2000000000000 -

$$
\begin{aligned}
&(237258851293*\cos(q2)*\sin(q3))/2000000000000 - \\
&(7618384777*\cos(q2)*\cos(q5)^\wedge2*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q6)^\wedge2*\sin(q3))/125000000000 + \\
&(237258851293*\cos(q2)*\sin(q3)*\sin(q4)^\wedge2)/2000000000000 - \\
&(21105437293*\cos(q2)*\cos(q4)*\sin(q3))/62500000000 - \\
&(32755927981*\cos(q2)*\cos(q6)*\sin(q3))/250000000000 - \\
&(10421867*\cos(q4)*\cos(q6)*\sin(q2))/1953125000 - \\
&(32755927981*\cos(q2)*\cos(q4)^\wedge2*\cos(q6)*\sin(q3))/250000000000 + \\
&(10421867*\cos(q3)^\wedge2*\cos(q4)*\cos(q6)*\sin(q2))/1953125000 + \\
&(32755927981*\cos(q2)*\cos(q6)*\sin(q3)*\sin(q4)^\wedge2)/250000000000 + \\
&(7618384777*\cos(q2)*\cos(q4)^\wedge2*\cos(q5)^\wedge2*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q4)^\wedge2*\cos(q6)^\wedge2*\sin(q3))/125000000000 + \\
&(7618384777*\cos(q2)*\cos(q5)^\wedge2*\cos(q6)^\wedge2*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q5)^\wedge2*\sin(q3)*\sin(q4)^\wedge2)/125000000000 + \\
&(7618384777*\cos(q2)*\cos(q6)^\wedge2*\sin(q3)*\sin(q4)^\wedge2)/125000000000 - \\
&(2740951021*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q3))/15625000000 + \\
&(7618384777*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 - \\
&(32755927981*\cos(q4)*\sin(q2)*\sin(q5)*\sin(q6))/250000000000 + \\
&(10421867*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/1953125000 - \\
&(7618384777*\cos(q3)^\wedge2*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q3)^\wedge2*\cos(q4)*\sin(q2)*\sin(q5)*\sin(q6))/250000000000 - \\
&(10421867*\cos(q3)^\wedge2*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/1953125000 - \\
&(7618384777*\cos(q5)*\cos(q6)^\wedge2*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q4)^\wedge2*\cos(q5)^\wedge2*\cos(q6)^\wedge2*\sin(q3))/125000000000 + \\
&(237258851293*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q3)*\sin(q4))/1000000000000 + \\
&(2740951021*\cos(q2)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/15625000000 - \\
&(7618384777*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q5)^\wedge2*\cos(q6)^\wedge2*\sin(q3)*\sin(q4)^\wedge2)/125000000000 + \\
&(7618384777*\cos(q3)^\wedge2*\cos(q5)*\cos(q6)^\wedge2*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/125000000000 + \\
&(32755927981*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^\wedge2*\sin(q2)*\sin(q3)*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q6)^\wedge2*\sin(q2)*\sin(q3)*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)^\wedge2*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q3)^\wedge2*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000 - \\
&(32755927981*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q4)^\wedge2*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)^\wedge2*\cos(q6)^\wedge2*\sin(q2)*\sin(q3)*\sin(q4))/ \\
&62500000000 + (7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/ \\
&31250000000 + \\
&(7618384777*\cos(q3)*\cos(q4)^\wedge2*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 \\
&- (7618384777*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)^\wedge2*\sin(q6))/ \\
&62500000000) - dq2*((21105437293*\sin(q4))/62500000000 + \\
&(237258851293*\cos(q4)*\sin(q4))/1000000000000 + \\
&(2740951021*\cos(q6)*\sin(q4))/15625000000 - \\
&(237258851293*\cos(q3)^\wedge2*\cos(q4)*\sin(q4))/1000000000000 - \\
&(7618384777*\cos(q4)*\cos(q5)^\wedge2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q4)*\cos(q6)^\wedge2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q4)^\wedge2*\cos(q5)*\sin(q6))/250000000000 - \\
&(32755927981*\cos(q5)*\sin(q4)^\wedge2*\sin(q6))/250000000000 + \\
&(80248811*\cos(q3)*\cos(q4)*\sin(q3))/7812500000 + \\
&(32755927981*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(2740951021*\cos(q4)*\cos(q5)*\sin(q6))/15625000000 - \\
&(32755927981*\cos(q3)^\wedge2*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(7618384777*\cos(q4)^\wedge2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q5)*\cos(q6)*\sin(q4)^\wedge2*\sin(q6))/62500000000 \\
&+ (7618384777*\cos(q3)^\wedge2*\cos(q4)*\cos(q5)^\wedge2*\sin(q4))/62500000000 - \\
&(7618384777*\cos(q3)^\wedge2*\cos(q4)*\cos(q6)^\wedge2*\sin(q4))/62500000000 - \\
&(32755927981*\cos(q3)^\wedge2*\cos(q4)^\wedge2*\cos(q5)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q4)*\cos(q5)^\wedge2*\cos(q6)^\wedge2*\sin(q4))/62500000000 +
\end{aligned}
$$

$$(32755927981*\cos(q3)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 +$$
$$(10421867*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q3)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 +$$
$$(32755927981*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 -$$
$$(10421867*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000) +$$
$$dq6*((32755927981*\cos(q3)*\sin(q6))/250000000000 +$$
$$(7618384777*\sin(q3)*\sin(q4)*\sin(q5))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q6)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/125000000000 -$$
$$(7618384777*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6)^2)/125000000000 +$$
$$(32755927981*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q5))/250000000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000) +$$
$$dq5*((7618384777*\cos(q4)*\sin(q3))/125000000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)^2*\sin(q3))/125000000000 -$$
$$(7618384777*\cos(q4)*\cos(q6)^2*\sin(q3))/125000000000 -$$
$$(7618384777*\cos(q4)*\sin(q3)*\sin(q5)^2)/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q5)*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q3))/125000000000 +$$
$$(7618384777*\cos(q4)*\cos(q6)^2*\sin(q3)*\sin(q5)^2)/125000000000 +$$
$$(32755927981*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/62500000000)) -$$
$$dq6*(dq4*((32755927981*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q6)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000) +$$
$$dq3*((7618384777*\cos(q4)*\sin(q5))/125000000000 +$$
$$(7618384777*\cos(q4)*\cos(q6)^2*\sin(q5))/125000000000 -$$
$$(7618384777*\cos(q4)*\sin(q5)*\sin(q6)^2)/125000000000 +$$
$$(32755927981*\cos(q4)*\cos(q6)*\sin(q5))/250000000000 -$$
$$(7618384777*\cos(q5)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000) +$$
$$dq2*((32755927981*\cos(q3)*\sin(q6))/250000000000 +$$
$$(7618384777*\sin(q3)*\sin(q4)*\sin(q5))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q6)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/125000000000 -$$
$$(7618384777*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6)^2)/125000000000 +$$
$$(32755927981*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q5))/250000000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000) -$$
$$dq1*((7618384777*\cos(q2)*\cos(q4)*\sin(q5)*\sin(q6)^2)/125000000000 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\sin(q5))/125000000000 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q6)^2*\sin(q5))/125000000000 -$$
$$(32755927981*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 -$$
$$(32755927981*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q5))/250000000000 +$$
$$(7618384777*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 -$$
$$(7618384777*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 +$$
$$(7618384777*\cos(q5)^2*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q5)*\sin(q6)^2)/125000000000 +$$
$$(32755927981*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q5))/250000000000 +$$
$$(7618384777*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000) +$$
$$dq5*((7618384777*\sin(q5))/125000000000 + (32755927981*\cos(q6)*\sin(q5))/250000000000$$
$$+ (7618384777*\cos(q6)^2*\sin(q5))/125000000000 -$$

```
(7618384777*sin(q5)*sin(q6)^2)/125000000000) +
(32755927981*dq6*cos(q5)*sin(q6))/250000000000) -
dq1*(dq2*((80248811*cos(q3)^2*cos(q4)*sin(q2))/7812500000 -
(80248811*cos(q4)*sin(q2))/7812500000 -
(237258851293*cos(q2)*cos(q4)^2*sin(q3))/2000000000000 -
(237258851293*cos(q2)*sin(q3))/2000000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q3))/125000000000 +
(237258851293*cos(q2)*sin(q3)*sin(q4)^2)/2000000000000 -
(21105437293*cos(q2)*cos(q4)*sin(q3))/62500000000 -
(32755927981*cos(q2)*cos(q6)*sin(q3))/250000000000 -
(10421867*cos(q4)*cos(q6)*sin(q2))/1953125000 -
(32755927981*cos(q2)*cos(q4)^2*cos(q6)*sin(q3))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*cos(q6)*sin(q2))/1953125000 +
(32755927981*cos(q2)*cos(q6)*sin(q3)*sin(q4)^2)/250000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q3)*sin(q4)^2)/125000000000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 -
(2740951021*cos(q2)*cos(q4)*cos(q6)*sin(q3))/15625000000 +
(7618384777*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 -
(32755927981*cos(q4)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q5)*sin(q2)*sin(q4)*sin(q6))/1953125000 -
(7618384777*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(10421867*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q6))/1953125000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +
(237258851293*cos(q3)*cos(q4)*sin(q2)*sin(q3)*sin(q4))/1000000000000 +
(2740951021*cos(q2)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/15625000000 -
(7618384777*cos(q4)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +
(7618384777*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 -
(32755927981*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q4)^2*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/
62500000000 + (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/
31250000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000
- (7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)^2*sin(q6))/
62500000000) - dq5*((7618384777*cos(q2)*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q6))/250000000000 -
(7618384777*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
```

(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000) +
dq3*((80248811*sin(q2)*sin(q3)*sin(q4))/7812500000 -
(237258851293*cos(q3)*sin(q2))/2000000000000 +
(237258851293*cos(q3)*cos(q4)^2*sin(q2))/2000000000000 -
(7618384777*cos(q3)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q2))/125000000000 -
(237258851293*cos(q3)*sin(q2)*sin(q4)^2)/2000000000000 +
(237258851293*cos(q2)*cos(q4)*sin(q4))/1000000000000 -
(32755927981*cos(q3)*cos(q6)*sin(q2))/250000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +
(32755927981*cos(q2)*cos(q4)^2*cos(q5)*sin(q6))/250000000000 -
(32755927981*cos(q3)*cos(q6)*sin(q2)*sin(q4)^2)/250000000000 -
(32755927981*cos(q2)*cos(q5)*sin(q4)^2*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q5)^2*sin(q2)*sin(q4)^2)/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q4)^2)/125000000000 +
(32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q4))/125000000000 +
(10421867*cos(q6)*sin(q2)*sin(q3)*sin(q4))/1953125000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q4)^2*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q4)^2)/125000000000 +
(32755927981*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/62500000000 -
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/125000000000 +
(7618384777*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/62500000000
 - (7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/31250000000) +
dq1*((4734679849*cos(q4)*sin(q3))/500000000000 - (21105437293*sin(q4))/62500000000
 - (2740951021*cos(q6)*sin(q4))/15625000000 +
(21105437293*cos(q2)^2*sin(q4))/62500000000 +
(237258851293*cos(q2)^2*cos(q4)*sin(q4))/1000000000000 -
(237258851293*cos(q3)^2*cos(q4)*sin(q4))/1000000000000 +
(2740951021*cos(q2)^2*cos(q6)*sin(q4))/15625000000 +
(80248811*cos(q3)*cos(q4)*sin(q3))/7812500000 +
(614890153*cos(q4)*cos(q6)*sin(q3))/125000000000 -
(2740951021*cos(q4)*cos(q5)*sin(q6))/15625000000 +
(237258851293*cos(q2)*cos(q3)*cos(q4)^2*sin(q2))/1000000000000 -
(80248811*cos(q2)^2*cos(q3)*cos(q4)*sin(q3))/7812500000 +
(32755927981*cos(q2)^2*cos(q4)*cos(q6)*sin(q4))/125000000000 +
(2740951021*cos(q2)^2*cos(q4)*cos(q5)*sin(q6))/15625000000 -
(32755927981*cos(q3)^2*cos(q4)*cos(q6)*sin(q4))/125000000000 -
(237258851293*cos(q2)*cos(q3)*sin(q2)*sin(q4)^2)/1000000000000 +
(237258851293*cos(q2)^2*cos(q3)^2*cos(q4)*sin(q4))/1000000000000 -
(7618384777*cos(q2)^2*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(7618384777*cos(q2)^2*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +
(32755927981*cos(q2)^2*cos(q4)^2*cos(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)^2*sin(q4))/62500000000 -

$$
\begin{aligned}
&(32755927981*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 - \\
&(32755927981*\cos(q2)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(32755927981*\cos(q3)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(21105437293*\cos(q2)*\cos(q3)*\cos(q4)*\sin(q2))/62500000000 + \\
&(10421867*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 + \\
&(80248811*\cos(q2)*\sin(q2)*\sin(q3)*\sin(q4))/7812500000 - \\
&(614890153*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/125000000000 - \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4)^2)/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\sin(q2))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q6)^2*\sin(q2))/62500000000 + \\
&(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 + \\
&(7618384777*\cos(q2)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q5)^2*\sin(q2)*\sin(q4)^2)/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/62500000000 - \\
&(7618384777*\cos(q2)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 + \\
&(2740951021*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2))/15625000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q2)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(10421867*\cos(q2)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/1953125000 - \\
&(7618384777*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 - \\
&(10421867*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 - \\
&(32755927981*\cos(q2)^2*\cos(q3)^2*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 + \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2))/125000000000 - \\
&(10421867*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3))/1953125000 + \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 - \\
&(2740951021*\cos(q2)*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/15625000000 + \\
&(10421867*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/62500000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 + \\
&(32755927981*\cos(q2)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)^2*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 - \\
&(32755927981*\cos(q2)^2*\cos(q3)*\cos(q4)*\sin(q3)*\sin(q5)*\sin(q6))/250000000000 + \\
&(10421867*\cos(q2)^2*\cos(q3)*\cos(q5)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 - \\
&(7618384777*\cos(q2)^2*\cos(q3)*\cos(q5)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 - \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q2)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 \\
&- (7618384777*\cos(q2)^2*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/15625000000) - dq6*((7618384777*\cos(q2)*\cos(q4)*\sin(q5)*\sin(q6)^2)/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q4)*\sin(q5))/125000000000 - \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q6)^2*\sin(q5))/125000000000 - \\
&(32755927981*\sin(q2)*\sin(q3)*\sin(q6))/250000000000 - \\
&(32755927981*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q5))/250000000000 + \\
&(7618384777*\cos(q3)*\sin(q2)*\sin(q4)*\sin(q5))/125000000000 - \\
&(7618384777*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 +
\end{aligned}
$$

$$(7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/125000000000 +$$
$$(7618384777*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 -$$
$$(7618384777*cos(q3)*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 +$$
$$(32755927981*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q5))/250000000000 +$$
$$(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +$$
$$(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000))$$
$$- dq4*(dq5*((7618384777*cos(q5)*sin(q5))/62500000000 -$$
$$(7618384777*cos(q5)*cos(q6)^2*sin(q5))/62500000000) +$$
$$dq6*((32755927981*sin(q6))/250000000000 + (7618384777*cos(q6)*sin(q6))/62500000000$$
$$- (7618384777*cos(q5)^2*cos(q6)*sin(q6))/62500000000)) +$$
$$ddq4*((32755927981*cos(q6))/125000000000 + (7618384777*cos(q5)^2)/62500000000 +$$
$$(7618384777*cos(q6)^2)/62500000000 - (7618384777*cos(q5)^2*cos(q6)^2)/62500000000 +$$
$$4274075497094027/18014398509481984) -$$
$$dq3*(dq2*((237258851293*sin(q3))/2000000000000 +$$
$$(80248811*cos(q3)*sin(q4))/7812500000 + (32755927981*cos(q6)*sin(q3))/250000000000$$
$$- (237258851293*cos(q4)^2*sin(q3))/2000000000000 +$$
$$(7618384777*cos(q5)^2*sin(q3))/125000000000 +$$
$$(7618384777*cos(q6)^2*sin(q3))/125000000000 +$$
$$(237258851293*sin(q3)*sin(q4)^2)/2000000000000 -$$
$$(32755927981*cos(q4)^2*cos(q6)*sin(q3))/250000000000 +$$
$$(32755927981*cos(q6)*sin(q3)*sin(q4)^2)/250000000000 +$$
$$(7618384777*cos(q4)^2*cos(q5)^2*sin(q3))/125000000000 -$$
$$(7618384777*cos(q4)^2*cos(q6)^2*sin(q3))/125000000000 -$$
$$(7618384777*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 -$$
$$(7618384777*cos(q5)^2*sin(q3)*sin(q4)^2)/125000000000 +$$
$$(7618384777*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +$$
$$(10421867*cos(q3)*cos(q6)*sin(q4))/1953125000 +$$
$$(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q5))/62500000000 +$$
$$(10421867*cos(q3)*cos(q4)*cos(q5)*sin(q6))/1953125000 -$$
$$(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +$$
$$(32755927981*cos(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000 +$$
$$(7618384777*cos(q5)^2*cos(q6)^2*sin(q3)*sin(q4)^2)/125000000000 +$$
$$(32755927981*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/125000000000 +$$
$$(7618384777*cos(q3)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -$$
$$(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +$$
$$(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/31250000000) +$$
$$dq6*((7618384777*cos(q4)*sin(q5))/125000000000 +$$
$$(7618384777*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -$$
$$(7618384777*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +$$
$$(32755927981*cos(q4)*cos(q6)*sin(q5))/250000000000 -$$
$$(7618384777*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000) +$$
$$dq3*((237258851293*cos(q4)*sin(q4))/1000000000000 -$$
$$(7618384777*cos(q4)*cos(q5)^2*sin(q4))/62500000000 +$$
$$(7618384777*cos(q4)*cos(q6)^2*sin(q4))/62500000000 +$$
$$(32755927981*cos(q4)^2*cos(q5)*sin(q6))/250000000000 -$$
$$(32755927981*cos(q5)*sin(q4)^2*sin(q6))/250000000000 +$$
$$(32755927981*cos(q4)*cos(q6)*sin(q4))/125000000000 +$$
$$(7618384777*cos(q4)^2*cos(q5)*cos(q6)*sin(q6))/62500000000 -$$
$$(7618384777*cos(q5)*cos(q6)*sin(q4)^2*sin(q6))/62500000000 +$$
$$(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q4))/62500000000) +$$
$$dq5*((7618384777*cos(q6)^2*sin(q4))/125000000000 -$$
$$(7618384777*cos(q5)^2*sin(q4))/125000000000 - (7618384777*sin(q4))/125000000000 +$$
$$(7618384777*sin(q4)*sin(q5)^2)/125000000000 +$$
$$(7618384777*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -$$
$$(7618384777*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +$$
$$(32755927981*cos(q4)*cos(q5)*sin(q6))/250000000000 +$$
$$(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000) +$$
$$dq1*((80248811*sin(q2)*sin(q3)*sin(q4))/7812500000 -$$
$$(237258851293*cos(q3)*sin(q2))/2000000000000 +$$

$$(237258851293*\cos(q3)*\cos(q4)^2*\sin(q2))/2000000000000 -$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\sin(q2))/125000000000 -$$
$$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q2))/125000000000 -$$
$$(237258851293*\cos(q3)*\sin(q2)*\sin(q4)^2)/2000000000000 +$$
$$(237258851293*\cos(q2)*\cos(q4)*\sin(q4))/1000000000000 -$$
$$(32755927981*\cos(q3)*\cos(q6)*\sin(q2))/250000000000 -$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)^2*\sin(q4))/62500000000 +$$
$$(32755927981*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2))/250000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(32755927981*\cos(q2)*\cos(q4)^2*\cos(q5)*\sin(q6))/250000000000 -$$
$$(32755927981*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4)^2)/250000000000 -$$
$$(32755927981*\cos(q2)*\cos(q5)*\sin(q4)^2*\sin(q6))/250000000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000$$
$$+ (7618384777*\cos(q3)*\cos(q5)^2*\sin(q2)*\sin(q4)^2)/125000000000 -$$
$$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/125000000000 +$$
$$(32755927981*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q4))/125000000000 +$$
$$(10421867*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/1953125000 -$$
$$(7618384777*\cos(q2)*\cos(q5)*\cos(q6)*\sin(q4)^2*\sin(q6))/62500000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)*\cos(q5)^2*\cos(q6)^2*\sin(q4))/62500000000 +$$
$$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)^2*\sin(q2))/125000000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 +$$
$$(10421867*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q6))/1953125000 -$$
$$(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q4)^2)/125000000000 +$$
$$(32755927981*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q2)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q6))/62500000000 -$$
$$(32755927981*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/125000000000 +$$
$$(7618384777*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 -$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/31250000000))$$
$$- ddq3*((80248811*\cos(q4))/7812500000 + (10421867*\cos(q4)*\cos(q6))/1953125000 -$$
$$(7618384777*\cos(q5)*\sin(q4)*\sin(q5))/62500000000 +$$
$$(32755927981*\cos(q4)*\sin(q5)*\sin(q6))/250000000000 -$$
$$(10421867*\cos(q5)*\sin(q4)*\sin(q6))/1953125000 +$$
$$(7618384777*\cos(q5)*\cos(q6)^2*\sin(q4)*\sin(q5))/62500000000 +$$
$$(7618384777*\cos(q4)*\cos(q6)*\sin(q5)*\sin(q6))/62500000000) +$$
$$(10421867*ddq6*\cos(q5)*(3143*\cos(q6) + 2924))/250000000000 -$$
$$(8655804529431431*\cos(q3)*\cos(q4)*\sin(q2))/1099511627776000 -$$
$$(8992994907673531*\cos(q2)*\cos(q6)*\sin(q4))/2199023255552000 -$$
$$(10421867*ddq5*\sin(q5)*\sin(q6)*(2924*\cos(q6) + 3143))/250000000000 -$$
$$(8992994907673531*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2))/2199023255552000 -$$
$$(8992994907673531*\cos(q2)*\cos(q4)*\cos(q5)*\sin(q6))/2199023255552000 +$$
$$(8992994907673531*\cos(q3)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q6))/2199023255552000;$$
$$,(7618384777*ddq5*\sin(q6)^2)/62500000000 +$$
$$dq4*(dq6*((7618384777*\sin(q5))/125000000000 -$$
$$(7618384777*\cos(q6)^2*\sin(q5))/125000000000 +$$
$$(7618384777*\sin(q5)*\sin(q6)^2)/125000000000) +$$
$$dq4*((7618384777*\cos(q5)*\sin(q5))/62500000000 -$$
$$(7618384777*\cos(q5)*\cos(q6)^2*\sin(q5))/62500000000) +$$
$$dq3*((7618384777*\cos(q6)^2*\sin(q4))/125000000000 -$$
$$(7618384777*\cos(q5)^2*\sin(q4))/125000000000 - (7618384777*\sin(q4))/125000000000 +$$
$$(7618384777*\sin(q4)*\sin(q5)^2)/125000000000 +$$
$$(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q4))/125000000000 -$$
$$(7618384777*\cos(q6)^2*\sin(q4)*\sin(q5)^2)/125000000000 +$$
$$(32755927981*\cos(q4)*\cos(q5)*\sin(q6))/250000000000 +$$
$$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q6))/62500000000) -$$
$$dq1*((7618384777*\cos(q2)*\sin(q4))/125000000000 +$$
$$(7618384777*\cos(q2)*\cos(q5)^2*\sin(q4))/125000000000 -$$

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(7618384777*cos(q2)*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q6))/250000000000 -
(7618384777*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000) +
dq2*((7618384777*cos(q4)*sin(q3))/125000000000 +
(7618384777*cos(q4)*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*sin(q3)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/125000000000 +
(32755927981*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000)) +
dq6*(dq4*((7618384777*sin(q5))/125000000000 -
(7618384777*cos(q6)^2*sin(q5))/125000000000 +
(7618384777*sin(q5)*sin(q6)^2)/125000000000) +
dq2*((7618384777*cos(q3)*sin(q5))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q5))/125000000000 +
(7618384777*cos(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 +
(7618384777*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) -
dq1*((7618384777*cos(q2)*cos(q5)*sin(q4))/125000000000 -
(7618384777*sin(q2)*sin(q3)*sin(q5))/125000000000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q5)*sin(q4)*sin(q6)^2)/125000000000 +
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/125000000000 -
(7618384777*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2))/125000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2))/125000000000) -
dq3*((7618384777*cos(q5)*sin(q4))/125000000000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q5)*sin(q4)*sin(q6)^2)/125000000000 -
(7618384777*cos(q4)*cos(q6)*sin(q6))/62500000000) +
(7618384777*dq5*cos(q6)*sin(q6))/62500000000) +
(8992994907673531*sin(q6)*(cos(q5)*sin(q2)*sin(q3) + cos(q2)*sin(q4)*sin(q5) +
cos(q3)*cos(q4)*sin(q2)*sin(q5)))/2199023255552000 +
dq1*(dq2*((7618384777*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)*sin(q2))/125000000000 + (7618384777*cos(q4)*cos(q6)^2*sin(q2))/
125000000000 - (7618384777*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*sin(q4))/125000000000 +
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(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 +
(2740951021*cos(q2)*cos(q3)*cos(q5)*sin(q6))/15625000000 -
(10421867*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q2)*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(2740951021*cos(q2)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/
62500000000 +
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000
- (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/
62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/
62500000000) + dq1*((7618384777*cos(q5)*sin(q5))/62500000000 -
(2740951021*sin(q4)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q2)^2*cos(q5)*sin(q5))/31250000000 -
(10421867*cos(q2)^2*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q3)^2*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q3)^2*cos(q5)*sin(q6))/1953125000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(614890153*cos(q3)*cos(q5)*sin(q6))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)*sin(q3)*sin(q5)^2)/62500000000 +
(2740951021*cos(q2)^2*sin(q4)*sin(q5)*sin(q6))/15625000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q5)*sin(q5))/62500000000 +
(10421867*cos(q2)^2*cos(q3)^2*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q2)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q2)^2*cos(q5)*cos(q6)^2*sin(q5))/31250000000 +
(7618384777*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(614890153*cos(q4)*sin(q3)*sin(q5)*sin(q6))/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q2)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(32755927981*cos(q3)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q2)*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*sin(q3)*sin(q5)^2)/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q2)^2*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
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(7618384777*cos(q2)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(32755927981*cos(q2)*cos(q3)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(2740951021*cos(q2)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/15625000000 +
(10421867*cos(q3)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q2)^2*cos(q3)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/62500000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 +
(2740951021*cos(q2)*cos(q3)*cos(q4)*sin(q2)*sin(q5)*sin(q6))/15625000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/62500000000 +
(10421867*cos(q2)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 -
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)^2*sin(q2)*sin(q5)*sin(q6))/125000000000 -
(10421867*cos(q2)^2*cos(q3)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000 +
(32755927981*cos(q2)^2*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)^2*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/
62500000000 - (7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/
31250000000
 + (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000
+ (7618384777*cos(q2)*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q5)*sin(q6))/
31250000000 +
(7618384777*cos(q2)^2*cos(q3)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000
+ (7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/
31250000000) - dq4*((7618384777*cos(q2)*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2))/125000000000 -
(7618384777*cos(q3)*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q2)*cos(q4)*cos(q5)*sin(q6))/250000000000 -
(7618384777*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q3)*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000) -
dq6*((7618384777*cos(q2)*cos(q5)*sin(q4))/125000000000 -
(7618384777*sin(q2)*sin(q3)*sin(q5))/125000000000 -
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q5)*sin(q4)*sin(q6)^2)/125000000000 +
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/125000000000 -
(7618384777*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2))/125000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2))/125000000000) +
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dq3*((7618384777*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q2)*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q3)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 +
(32755927981*cos(q2)*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(10421867*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/
62500000000)) + ddq1*((7618384777*cos(q2)*cos(q4))/62500000000 -
(7618384777*cos(q2)*cos(q4)*cos(q6)^2)/62500000000 -
(7618384777*cos(q3)*sin(q2)*sin(q4))/62500000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q4))/62500000000 +
(614890153*cos(q2)*cos(q5)*sin(q3)*sin(q6))/125000000000 +
(2740951021*cos(q3)*cos(q5)*sin(q2)*sin(q6))/15625000000 +
(10421867*cos(q2)*cos(q4)*sin(q5)*sin(q6))/1953125000 +
(32755927981*cos(q2)*cos(q5)*sin(q4)*sin(q6))/250000000000 -
(32755927981*sin(q2)*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(614890153*sin(q2)*sin(q4)*sin(q5)*sin(q6))/125000000000 +
(614890153*cos(q2)*cos(q3)*cos(q4)*sin(q5)*sin(q6))/125000000000 +
(32755927981*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q4)*sin(q6))/62500000000 -
(10421867*cos(q3)*sin(q2)*sin(q4)*sin(q5)*sin(q6))/1953125000 -
(2740951021*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q6)*sin(q2)*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q6))/62500000000) -
ddq2*((7618384777*cos(q6)^2*sin(q3)*sin(q4))/62500000000 -
(7618384777*sin(q3)*sin(q4))/62500000000 +
(32755927981*cos(q3)*sin(q5)*sin(q6))/250000000000 +
(2740951021*cos(q5)*sin(q3)*sin(q6))/15625000000 +
(2740951021*cos(q3)*cos(q4)*sin(q5)*sin(q6))/15625000000 +
(32755927981*cos(q4)*cos(q5)*sin(q3)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q5)*sin(q6))/62500000000 -
(10421867*sin(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q6))/62500000000) +
ddq3*((7618384777*cos(q4))/62500000000 - (7618384777*cos(q4)*cos(q6)^2)/62500000000
+ (10421867*cos(q4)*sin(q5)*sin(q6))/1953125000 +
(32755927981*cos(q5)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q5)*cos(q6)*sin(q4)*sin(q6))/62500000000) +
dq2*(dq1*((7618384777*cos(q4)*cos(q5)^2*sin(q2))/125000000000 -
(7618384777*cos(q4)*sin(q2))/125000000000 + (7618384777*cos(q4)*cos(q6)^2*sin(q2))/
125000000000 - (7618384777*cos(q4)*sin(q2)*sin(q5)^2)/125000000000 -
(7618384777*cos(q2)*cos(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q2)*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*sin(q2))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/125000000000 +
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(7618384777*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/125000000000 +
(2740951021*cos(q2)*cos(q3)*cos(q5)*sin(q6))/15625000000 -
(10421867*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q2)*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*sin(q2)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)^2*cos(q5)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 +
(10421867*cos(q3)*cos(q5)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(2740951021*cos(q2)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)^2*sin(q2)*sin(q5)^2)/62500000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q5)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/
62500000000 +
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/250000000000
- (7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/
62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/
62500000000) - dq2*((10421867*cos(q5)*sin(q6))/1953125000 +
(2740951021*sin(q4)*sin(q5)*sin(q6))/15625000000 -
(7618384777*cos(q3)^2*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q3)^2*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*sin(q3))/62500000000 +
(7618384777*cos(q3)*cos(q4)*sin(q3)*sin(q5)^2)/62500000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q3)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(32755927981*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 -
(32755927981*cos(q3)^2*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/62500000000 +
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(10421867*cos(q3)*cos(q4)*sin(q3)*sin(q5)*sin(q6))/1953125000 -
(32755927981*cos(q3)*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000) +
dq6*((7618384777*cos(q3)*sin(q5))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q5))/125000000000 +
(7618384777*cos(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 +
(7618384777*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) +
dq3*((7618384777*cos(q3)*sin(q4))/125000000000 +
(32755927981*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
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(32755927981*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(10421867*cos(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(7618384777*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000
 - (7618384777*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000) +
dq4*((7618384777*cos(q4)*sin(q3))/125000000000 +
(7618384777*cos(q4)*cos(q5)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q4)*sin(q3)*sin(q5)^2)/125000000000 +
(7618384777*cos(q3)*cos(q5)*sin(q5))/62500000000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q4)*cos(q5)^2*cos(q6)^2*sin(q3))/125000000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q3)*sin(q5)^2)/125000000000 +
(32755927981*cos(q5)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q5)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000)) +
dq3*(dq4*((7618384777*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q5)^2*sin(q4))/125000000000 - (7618384777*sin(q4))/125000000000 +
(7618384777*sin(q4)*sin(q5)^2)/125000000000 +
(7618384777*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(32755927981*cos(q4)*cos(q5)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q6))/62500000000) +
dq2*((7618384777*cos(q3)*sin(q4))/125000000000 +
(32755927981*sin(q3)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q4)^2*sin(q3)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)^2*sin(q4))/125000000000 -
(7618384777*cos(q3)*cos(q6)^2*sin(q4)*sin(q5)^2)/125000000000 +
(10421867*cos(q3)*sin(q4)*sin(q5)*sin(q6))/1953125000 +
(7618384777*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q4)^2*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000) -
dq6*((7618384777*cos(q5)*sin(q4))/125000000000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q5)*sin(q4)*sin(q6)^2)/125000000000 -
(7618384777*cos(q4)*cos(q6)*sin(q6))/62500000000) +
dq3*((7618384777*cos(q4)^2*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q5)*sin(q6))/1953125000 - (7618384777*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
(32755927981*cos(q4)*sin(q4)*sin(q5)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000) +
dq1*((7618384777*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q2)*cos(q5)*sin(q5))/62500000000 -
(10421867*cos(q2)*cos(q5)*sin(q6))/1953125000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q5))/62500000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q5))/62500000000 -
(7618384777*cos(q5)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/125000000000 +
(7618384777*sin(q2)*sin(q3)*sin(q4)*sin(q5)^2)/125000000000 -
(32755927981*cos(q3)*sin(q2)*sin(q5)*sin(q6))/250000000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q5)*sin(q6))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q5))/62500000000 +
```

$(7618384777*\cos(q5)^2*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q4))/125000000000 -$
$(7618384777*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)^2)/125000000000 +$
$(32755927981*\cos(q2)*\cos(q4)*\sin(q4)*\sin(q5)*\sin(q6))/250000000000 -$
$(7618384777*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000 +$
$(10421867*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6))/1953125000 -$
$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 +$
$(7618384777*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 +$
$(7618384777*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000 +$
$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/$
$62500000000)) - (10421867*ddq4*\sin(q5)*\sin(q6)*(2924*\cos(q6) + 3143))/250000000000$
$+ (7618384777*dq5*dq6*\cos(q6)*\sin(q6))/62500000000;$
$,(7618384777*ddq6)/62500000000 +$
$ddq1*((7618384777*\cos(q5)*\sin(q2)*\sin(q3))/62500000000 +$
$(7618384777*\cos(q2)*\sin(q4)*\sin(q5))/62500000000 +$
$(10421867*\cos(q2)*\sin(q4)*\sin(q6))/1953125000 +$
$(614890153*\cos(q4)*\sin(q2)*\sin(q6))/125000000000 -$
$(10421867*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6))/1953125000 +$
$(7618384777*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q5))/62500000000 +$
$(614890153*\cos(q2)*\cos(q3)*\sin(q4)*\sin(q6))/125000000000 +$
$(10421867*\cos(q3)*\cos(q4)*\sin(q2)*\sin(q6))/1953125000 +$
$(614890153*\cos(q2)*\cos(q6)*\sin(q3)*\sin(q5))/125000000000 +$
$(2740951021*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q5))/15625000000 +$
$(32755927981*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3))/250000000000 +$
$(32755927981*\cos(q2)*\cos(q6)*\sin(q4)*\sin(q5))/250000000000 +$
$(614890153*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4))/125000000000 -$
$(2740951021*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q6))/15625000000 -$
$(614890153*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6))/125000000000 +$
$(32755927981*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q2)*\sin(q5))/250000000000 +$
$(10421867*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q4))/1953125000 +$
$(2740951021*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3))/15625000000) -$
$dq5*(dq4*((7618384777*\sin(q5))/125000000000 -$
$(7618384777*\cos(q6)^2*\sin(q5))/125000000000 +$
$(7618384777*\sin(q5)*\sin(q6)^2)/125000000000) +$
$dq2*((7618384777*\cos(q3)*\sin(q5))/125000000000 -$
$(7618384777*\cos(q3)*\cos(q6)^2*\sin(q5))/125000000000 +$
$(7618384777*\cos(q3)*\sin(q5)*\sin(q6)^2)/125000000000 +$
$(7618384777*\cos(q4)*\cos(q5)*\sin(q3))/125000000000 -$
$(7618384777*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q3))/125000000000 +$
$(7618384777*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q6)^2)/125000000000 +$
$(7618384777*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/62500000000) -$
$dq1*((7618384777*\cos(q2)*\cos(q5)*\sin(q4))/125000000000 -$
$(7618384777*\sin(q2)*\sin(q3)*\sin(q5))/125000000000 -$
$(7618384777*\cos(q2)*\cos(q5)*\cos(q6)^2*\sin(q4))/125000000000 +$
$(7618384777*\cos(q2)*\cos(q5)*\sin(q4)*\sin(q6)^2)/125000000000 +$
$(7618384777*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q5))/125000000000 -$
$(7618384777*\sin(q2)*\sin(q3)*\sin(q5)*\sin(q6)^2)/125000000000 +$
$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2))/125000000000 -$
$(7618384777*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q6))/62500000000 +$
$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q6)^2)/125000000000 +$
$(7618384777*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q4)*\sin(q6))/62500000000 -$
$(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2))/125000000000) -$
$dq3*((7618384777*\cos(q5)*\sin(q4))/125000000000 -$
$(7618384777*\cos(q5)*\cos(q6)^2*\sin(q4))/125000000000 +$
$(7618384777*\cos(q5)*\sin(q4)*\sin(q6)^2)/125000000000 -$
$(7618384777*\cos(q4)*\cos(q6)*\sin(q6))/62500000000) +$
$(7618384777*dq5*\cos(q6)*\sin(q6))/62500000000) +$
$dq4*(dq4*((32755927981*\sin(q6))/250000000000 +$
$(7618384777*\cos(q6)*\sin(q6))/62500000000 -$
$(7618384777*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000) -$

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dq5*((7618384777*sin(q5))/125000000000 -
(7618384777*cos(q6)^2*sin(q5))/125000000000 +
(7618384777*sin(q5)*sin(q6)^2)/125000000000) +
dq3*((7618384777*cos(q4)*sin(q5))/125000000000 +
(7618384777*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -
(7618384777*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(32755927981*cos(q4)*cos(q6)*sin(q5))/250000000000 -
(7618384777*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000) +
dq2*((32755927981*cos(q3)*sin(q6))/250000000000 +
(7618384777*sin(q3)*sin(q4)*sin(q5))/125000000000 +
(7618384777*cos(q3)*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/125000000000 -
(7618384777*sin(q3)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(32755927981*cos(q6)*sin(q3)*sin(q4)*sin(q5))/250000000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/62500000000) -
dq1*((7618384777*cos(q2)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 -
(7618384777*cos(q2)*cos(q4)*sin(q5))/125000000000 -
(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -
(32755927981*sin(q2)*sin(q3)*sin(q6))/250000000000 -
(32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q5))/250000000000 +
(7618384777*cos(q3)*sin(q2)*sin(q4)*sin(q5))/125000000000 -
(7618384777*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/125000000000 +
(7618384777*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 -
(7618384777*cos(q3)*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(32755927981*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q5))/250000000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000))
- ddq2*((7618384777*cos(q4)*sin(q3)*sin(q5))/62500000000 -
(32755927981*cos(q3)*cos(q5)*cos(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5))/62500000000 +
(2740951021*cos(q3)*sin(q4)*sin(q6))/15625000000 +
(10421867*cos(q4)*sin(q3)*sin(q6))/1953125000 +
(2740951021*cos(q6)*sin(q3)*sin(q5))/15625000000 -
(2740951021*cos(q3)*cos(q4)*cos(q5)*cos(q6))/15625000000 +
(32755927981*cos(q4)*cos(q6)*sin(q3)*sin(q5))/250000000000 +
(10421867*cos(q5)*cos(q6)*sin(q3)*sin(q4))/1953125000) +
ddq3*((7618384777*sin(q4)*sin(q5))/62500000000 +
(10421867*sin(q4)*sin(q6))/1953125000 -
(10421867*cos(q4)*cos(q5)*cos(q6))/1953125000 +
(32755927981*cos(q6)*sin(q4)*sin(q5))/250000000000) -
dq3*(dq2*((7618384777*cos(q5)*sin(q3))/125000000000 +
(7618384777*cos(q5)*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q5))/125000000000 +
(10421867*cos(q3)*cos(q4)*sin(q6))/1953125000 +
(32755927981*cos(q5)*cos(q6)*sin(q3))/250000000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -
(32755927981*cos(q4)^2*cos(q5)*cos(q6)*sin(q3))/250000000000 +
(7618384777*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 -
(7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +
(10421867*cos(q3)*cos(q5)*cos(q6)*sin(q4))/1953125000 +
(32755927981*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 +
(7618384777*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) -
dq4*((7618384777*cos(q4)*sin(q5))/125000000000 +
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(7618384777*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -
(7618384777*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(32755927981*cos(q4)*cos(q6)*sin(q5))/250000000000 -
(7618384777*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000) +
dq1*((32755927981*cos(q2)*cos(q4)^2*sin(q6))/250000000000 -
(32755927981*cos(q2)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)*sin(q2))/125000000000 +
(10421867*cos(q2)*cos(q6)*sin(q5))/1953125000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q6)^2)/125000000000 -
(32755927981*cos(q3)*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5))/125000000000 +
(10421867*cos(q4)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/125000000000 +
(7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q6)^2)/62500000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 -
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(10421867*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/1953125000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000)
+ dq3*((10421867*cos(q6)*sin(q5))/1953125000 - (32755927981*sin(q6))/250000000000 +
(32755927981*cos(q4)^2*sin(q6))/250000000000 +
(7618384777*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 +
(7618384777*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000) -
dq5*((7618384777*cos(q5)*sin(q4))/125000000000 -
(7618384777*cos(q5)*cos(q6)^2*sin(q4))/125000000000 +
(7618384777*cos(q5)*sin(q4)*sin(q6)^2)/125000000000 -
(7618384777*cos(q4)*cos(q6)*sin(q6))/62500000000)) -
dq1*(dq2*((7618384777*sin(q2)*sin(q4)*sin(q5))/125000000000 +
(10421867*sin(q2)*sin(q4)*sin(q6))/1953125000 -
(7618384777*cos(q2)*cos(q5)*sin(q3))/125000000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q3))/125000000000 -
(7618384777*cos(q2)*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 -
(10421867*cos(q3)^2*sin(q2)*sin(q4)*sin(q6))/1953125000 -
(7618384777*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/125000000000 +
(7618384777*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*sin(q5))/125000000000 -
(2740951021*cos(q2)*cos(q3)*cos(q6)*sin(q5))/15625000000 -
(10421867*cos(q4)*cos(q5)*cos(q6)*sin(q2))/1953125000 -
(32755927981*cos(q3)*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(2740951021*cos(q2)*sin(q3)*sin(q4)*sin(q6))/15625000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 +
(32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q3)*sin(q6))/250000000000 +
(32755927981*cos(q3)^2*cos(q6)*sin(q2)*sin(q4)*sin(q5))/250000000000 -
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +
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(7618384777*cos(q3)^2*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q3)^2*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/62500000000
 - (32755927981*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q5))/250000000000 -
(2740951021*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/15625000000 +
(32755927981*cos(q2)*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 -
(10421867*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/1953125000 -
(7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q3)*sin(q6))/31250000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 -
(32755927981*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)*sin(q3))/250000000000 +
(10421867*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2))/1953125000 +
(7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 -
(7618384777*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/
62500000000 +
(32755927981*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/250000000000
+ (7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000
+ (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2)*sin(q3)*sin(q4))/
62500000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000
+ (7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/
31250000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q3)*sin(q4)*sin(q6)^2)/62500000000)
+ dq3*((32755927981*cos(q2)*cos(q4)^2*sin(q6))/250000000000 -
(32755927981*cos(q2)*sin(q6))/250000000000 -
(7618384777*cos(q3)*cos(q5)*sin(q2))/125000000000 +
(10421867*cos(q2)*cos(q6)*sin(q5))/1953125000 -
(7618384777*cos(q3)*cos(q5)*cos(q6)^2*sin(q2))/125000000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q2)*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q3)*cos(q5)*sin(q2)*sin(q6)^2)/125000000000 -
(32755927981*cos(q3)*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5))/125000000000 +
(10421867*cos(q4)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(7618384777*cos(q2)*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 -
(7618384777*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/125000000000 +
(7618384777*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/125000000000 +
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2))/62500000000 +
(7618384777*cos(q2)*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q6)^2)/62500000000 +
(32755927981*cos(q2)*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 -
(32755927981*cos(q3)*cos(q4)*sin(q2)*sin(q4)*sin(q6))/250000000000 +
(10421867*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/1953125000 +
(32755927981*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(7618384777*cos(q2)*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 +
(7618384777*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/62500000000 -
(7618384777*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000)
+ dq1*((32755927981*cos(q3)^2*sin(q6))/250000000000 - (2740951021*cos(q4)*sin(q6))/
15625000000 - (7618384777*cos(q6)*sin(q6))/62500000000 -
(32755927981*sin(q6))/250000000000 -
(614890153*sin(q3)*sin(q4)*sin(q6))/125000000000 +
(2740951021*cos(q2)^2*cos(q4)*sin(q6))/15625000000 +
(10421867*cos(q2)^2*cos(q6)*sin(q5))/1953125000 +
(7618384777*cos(q2)^2*cos(q6)*sin(q6))/62500000000 +
(10421867*cos(q3)^2*cos(q6)*sin(q5))/1953125000 +
(7618384777*cos(q3)^2*cos(q6)*sin(q6))/31250000000 +
(7618384777*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -

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(32755927981*cos(q2)^2*cos(q3)^2*sin(q6))/250000000000 +
(32755927981*cos(q2)^2*cos(q4)^2*sin(q6))/250000000000 -
(32755927981*cos(q3)^2*cos(q4)^2*sin(q6))/250000000000 +
(614890153*cos(q3)*cos(q6)*sin(q5))/125000000000 -
(2740951021*cos(q5)*cos(q6)*sin(q4))/15625000000 +
(2740951021*cos(q2)^2*cos(q5)*cos(q6)*sin(q4))/15625000000 -
(10421867*cos(q2)^2*cos(q3)^2*cos(q6)*sin(q5))/1953125000 -
(7618384777*cos(q2)^2*cos(q3)^2*cos(q6)*sin(q6))/31250000000 +
(7618384777*cos(q2)^2*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q2)^2*cos(q5)^2*cos(q6)*sin(q6))/31250000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(614890153*cos(q4)*cos(q5)*cos(q6)*sin(q3))/125000000000 +
(32755927981*cos(q2)^2*cos(q3)^2*cos(q4)^2*sin(q6))/250000000000 -
(10421867*cos(q3)*sin(q3)*sin(q4)*sin(q6))/1953125000 +
(7618384777*cos(q2)*cos(q3)*cos(q5)*sin(q2)*sin(q6)^2)/62500000000 +
(10421867*cos(q2)^2*cos(q3)*sin(q3)*sin(q4)*sin(q6))/1953125000 +
(7618384777*cos(q3)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 -
(7618384777*cos(q3)*sin(q3)*sin(q4)*sin(q5)*sin(q6)^2)/62500000000 +
(7618384777*cos(q2)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(7618384777*cos(q2)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 +
(7618384777*cos(q3)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 -
(32755927981*cos(q2)*cos(q3)*cos(q5)*cos(q6)*sin(q2))/250000000000 +
(10421867*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/1953125000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(7618384777*cos(q2)^2*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -
(2740951021*cos(q2)*cos(q3)*sin(q2)*sin(q4)*sin(q6))/15625000000 +
(10421867*cos(q2)*cos(q4)*sin(q2)*sin(q3)*sin(q6))/1953125000 -
(2740951021*cos(q2)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/15625000000 +
(32755927981*cos(q3)*cos(q6)*sin(q3)*sin(q4)*sin(q5))/250000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q5)*cos(q6)^2*sin(q2))/62500000000 +
(32755927981*cos(q2)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 -
(32755927981*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 +
(7618384777*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q2))/31250000000 +
(32755927981*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*sin(q2)*sin(q6)^2)/31250000000 -
(7618384777*cos(q2)^2*cos(q3)*cos(q6)^2*sin(q3)*sin(q4)*sin(q5))/62500000000 +
(7618384777*cos(q2)^2*cos(q3)*sin(q3)*sin(q4)*sin(q5)*sin(q6)^2)/62500000000 +
(2740951021*cos(q2)*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2))/15625000000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)^2*sin(q4))/62500000000 -
(32755927981*cos(q2)*cos(q3)*cos(q4)*sin(q2)*sin(q4)*sin(q6))/125000000000 -
(32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q2)*sin(q3)*sin(q5))/250000000000 +
(10421867*cos(q2)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4))/1953125000 -
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)*cos(q5)*sin(q4)*sin(q6)^2)/62500000000 +
(32755927981*cos(q2)*cos(q3)*cos(q4)^2*cos(q5)*cos(q6)*sin(q2))/125000000000 -
(10421867*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/1953125000 +
(7618384777*cos(q2)^2*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 -
(7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/62500000000 -
(32755927981*cos(q2)^2*cos(q3)*cos(q6)*sin(q3)*sin(q4)*sin(q5))/250000000000 +
(7618384777*cos(q2)*cos(q4)*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/62500000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/31250000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/31250000000 +
(7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q2)*sin(q3)*sin(q4)*sin(q5)*sin(q6))/
31250000000 -
(7618384777*cos(q2)*cos(q3)*cos(q4)*cos(q5)^2*cos(q6)*sin(q2)*sin(q4)*sin(q6))/
31250000000 -
```

$$(7618384777*cos(q2)^2*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/31250000000) - dq5*((7618384777*cos(q2)*cos(q5)*sin(q4))/125000000000 - (7618384777*sin(q2)*sin(q3)*sin(q5))/125000000000 - (7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q4))/125000000000 + (7618384777*cos(q2)*cos(q5)*sin(q4)*sin(q6)^2)/125000000000 + (7618384777*cos(q6)^2*sin(q2)*sin(q3)*sin(q5))/125000000000 - (7618384777*sin(q2)*sin(q3)*sin(q5)*sin(q6)^2)/125000000000 + (7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2))/125000000000 - (7618384777*cos(q2)*cos(q4)*cos(q6)*sin(q6))/62500000000 + (7618384777*cos(q3)*cos(q4)*cos(q5)*sin(q2)*sin(q6)^2)/125000000000 + (7618384777*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q6))/62500000000 - (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)^2*sin(q2))/125000000000) + dq4*((7618384777*cos(q2)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 - (7618384777*cos(q2)*cos(q4)*sin(q5))/125000000000 - (7618384777*cos(q2)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 - (32755927981*sin(q2)*sin(q3)*sin(q6))/250000000000 - (32755927981*cos(q2)*cos(q4)*cos(q6)*sin(q5))/250000000000 + (7618384777*cos(q3)*sin(q2)*sin(q4)*sin(q5))/125000000000 - (7618384777*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 + (7618384777*cos(q3)*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/125000000000 + (7618384777*cos(q5)^2*cos(q6)*sin(q2)*sin(q3)*sin(q6))/62500000000 - (7618384777*cos(q3)*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 + (32755927981*cos(q3)*cos(q6)*sin(q2)*sin(q4)*sin(q5))/250000000000 + (7618384777*cos(q2)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 + (7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2)*sin(q5)*sin(q6))/62500000000)) - dq2*(dq3*((7618384777*cos(q5)*sin(q3))/125000000000 + (7618384777*cos(q5)*cos(q6)^2*sin(q3))/125000000000 - (7618384777*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 + (7618384777*cos(q3)*cos(q4)*sin(q5))/125000000000 + (10421867*cos(q3)*cos(q4)*sin(q6))/1953125000 + (32755927981*cos(q5)*cos(q6)*sin(q3))/250000000000 - (7618384777*cos(q3)*cos(q4)*cos(q6)^2*sin(q5))/125000000000 - (32755927981*cos(q4)^2*cos(q5)*cos(q6)*sin(q3))/250000000000 + (7618384777*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 - (7618384777*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 + (7618384777*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000$$
$$ + (10421867*cos(q3)*cos(q5)*cos(q6)*sin(q4))/1953125000 + (32755927981*cos(q4)*sin(q3)*sin(q4)*sin(q6))/250000000000 + (7618384777*cos(q4)*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000 + (7618384777*cos(q3)*cos(q5)*cos(q6)*sin(q4)*sin(q5)*sin(q6))/62500000000 + (7618384777*cos(q4)*cos(q5)^2*cos(q6)*sin(q3)*sin(q4)*sin(q6))/62500000000) + dq1*((7618384777*sin(q2)*sin(q4)*sin(q5))/125000000000 + (10421867*sin(q2)*sin(q4)*sin(q6))/1953125000 - (7618384777*cos(q2)*cos(q5)*sin(q3))/125000000000 + (7618384777*cos(q2)*cos(q5)*cos(q6)^2*sin(q3))/125000000000 - (7618384777*cos(q2)*cos(q5)*sin(q3)*sin(q6)^2)/125000000000 - (10421867*cos(q3)^2*sin(q2)*sin(q4)*sin(q6))/1953125000 - (7618384777*cos(q6)^2*sin(q2)*sin(q4)*sin(q5))/125000000000 + (7618384777*sin(q2)*sin(q4)*sin(q5)*sin(q6)^2)/125000000000 - (7618384777*cos(q2)*cos(q3)*cos(q4)*sin(q5))/125000000000 - (2740951021*cos(q2)*cos(q3)*cos(q6)*sin(q5))/15625000000 - (10421867*cos(q4)*cos(q5)*cos(q6)*sin(q2))/1953125000 - (32755927981*cos(q3)*sin(q2)*sin(q3)*sin(q6))/250000000000 + (2740951021*cos(q2)*sin(q3)*sin(q4)*sin(q6))/15625000000 + (7618384777*cos(q2)*cos(q3)*cos(q4)*sin(q5)*sin(q6)^2)/125000000000 + (32755927981*cos(q3)*cos(q4)^2*sin(q2)*sin(q3)*sin(q6))/250000000000 + (32755927981*cos(q3)^2*cos(q6)*sin(q2)*sin(q4)*sin(q5))/250000000000 - (7618384777*cos(q2)*cos(q4)^2*cos(q5)*cos(q6)^2*sin(q3))/62500000000 + (7618384777*cos(q2)*cos(q4)^2*cos(q5)*sin(q3)*sin(q6)^2)/62500000000 +$$

$$
\begin{aligned}
&(7618384777*\cos(q3)^2*\cos(q6)^2*\sin(q2)*\sin(q4)*\sin(q5))/62500000000 - \\
&(7618384777*\cos(q3)^2*\sin(q2)*\sin(q4)*\sin(q5)*\sin(q6)^2)/62500000000 - \\
&(32755927981*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)*\sin(q5))/250000000000 - \\
&(2740951021*\cos(q2)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3))/15625000000 + \\
&(32755927981*\cos(q2)*\cos(q4)*\sin(q3)*\sin(q4)*\sin(q6))/250000000000 - \\
&(10421867*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q5))/1953125000 - \\
&(7618384777*\cos(q3)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/31250000000 - \\
&(7618384777*\cos(q2)*\cos(q3)*\cos(q4)*\cos(q6)^2*\sin(q5))/125000000000 - \\
&(32755927981*\cos(q2)*\cos(q4)^2*\cos(q5)*\cos(q6)*\sin(q3))/250000000000 + \\
&(10421867*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2))/1953125000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)^2*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q3)*\cos(q4)^2*\cos(q5)^2*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q6))/ \\
&62500000000 + \\
&(32755927981*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q3)*\sin(q4))/250000000000 \\
&+ (7618384777*\cos(q2)*\cos(q3)*\cos(q5)*\cos(q6)*\sin(q4)*\sin(q5)*\sin(q6))/62500000000 \\
&+ (7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q2)*\sin(q3)*\sin(q4))/ \\
&62500000000 + \\
&(7618384777*\cos(q2)*\cos(q4)*\cos(q5)^2*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/62500000000 \\
&+ (7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q2)*\sin(q5)*\sin(q6))/ \\
&31250000000 - \\
&(7618384777*\cos(q3)*\cos(q4)*\cos(q5)*\sin(q2)*\sin(q3)*\sin(q4)*\sin(q6)^2)/62500000000) \\
&- dq4*((32755927981*\cos(q3)*\sin(q6))/250000000000 + \\
&(7618384777*\sin(q3)*\sin(q4)*\sin(q5))/125000000000 + \\
&(7618384777*\cos(q3)*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/125000000000 - \\
&(7618384777*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6)^2)/125000000000 + \\
&(32755927981*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q5))/250000000000 + \\
&(7618384777*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q3)*\sin(q5)*\sin(q6))/62500000000) + \\
&dq5*((7618384777*\cos(q3)*\sin(q5))/125000000000 - \\
&(7618384777*\cos(q3)*\cos(q6)^2*\sin(q5))/125000000000 + \\
&(7618384777*\cos(q3)*\sin(q5)*\sin(q6)^2)/125000000000 + \\
&(7618384777*\cos(q4)*\cos(q5)*\sin(q3))/125000000000 - \\
&(7618384777*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q3))/125000000000 + \\
&(7618384777*\cos(q4)*\cos(q5)*\sin(q3)*\sin(q6)^2)/125000000000 + \\
&(7618384777*\cos(q6)*\sin(q3)*\sin(q4)*\sin(q6))/62500000000) - \\
&dq2*((2740951021*\cos(q4)*\sin(q6))/15625000000 - \\
&(10421867*\cos(q6)*\sin(q5))/1953125000 - (7618384777*\cos(q6)*\sin(q6))/62500000000 + \\
&(32755927981*\cos(q3)^2*\sin(q6))/250000000000 + \\
&(32755927981*\cos(q4)^2*\sin(q6))/250000000000 + \\
&(10421867*\cos(q3)^2*\cos(q6)*\sin(q5))/1953125000 + \\
&(7618384777*\cos(q3)^2*\cos(q6)*\sin(q6))/31250000000 + \\
&(7618384777*\cos(q4)^2*\cos(q6)*\sin(q6))/62500000000 - \\
&(32755927981*\cos(q3)^2*\cos(q4)^2*\sin(q6))/250000000000 + \\
&(2740951021*\cos(q5)*\cos(q6)*\sin(q4))/15625000000 + \\
&(7618384777*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q4))/62500000000 - \\
&(7618384777*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6)^2)/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)^2*\cos(q6)*\sin(q6))/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 + \\
&(7618384777*\cos(q4)^2*\cos(q5)^2*\cos(q6)*\sin(q6))/62500000000 + \\
&(32755927981*\cos(q4)*\cos(q5)*\cos(q6)*\sin(q4))/250000000000 - \\
&(10421867*\cos(q3)*\sin(q3)*\sin(q4)*\sin(q6))/1953125000 + \\
&(7618384777*\cos(q3)*\cos(q6)^2*\sin(q3)*\sin(q4)*\sin(q5))/62500000000 - \\
&(7618384777*\cos(q3)*\sin(q3)*\sin(q4)*\sin(q5)*\sin(q6)^2)/62500000000 - \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\cos(q6)^2*\sin(q4))/62500000000 + \\
&(7618384777*\cos(q3)^2*\cos(q4)*\cos(q5)*\sin(q4)*\sin(q6)^2)/62500000000 +
\end{aligned}
$$

```
(10421867*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3))/1953125000 -
(7618384777*cos(q3)^2*cos(q4)^2*cos(q5)^2*cos(q6)*sin(q6))/62500000000 +
(32755927981*cos(q3)*cos(q6)*sin(q3)*sin(q4)*sin(q5))/250000000000 -
(32755927981*cos(q3)^2*cos(q4)*cos(q5)*cos(q6)*sin(q4))/250000000000 +
(7618384777*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q3)*sin(q5)*sin(q6))/31250000000))
+ (10421867*ddq4*cos(q5)*(3143*cos(q6) + 2924))/250000000000 -
(8992994907673531*cos(q2)*cos(q4)*sin(q6))/2199023255552000 -
(8992994907673531*cos(q2)*cos(q5)*cos(q6)*sin(q4))/2199023255552000 +
(8992994907673531*cos(q3)*sin(q2)*sin(q4)*sin(q6))/2199023255552000 +
(8992994907673531*cos(q6)*sin(q2)*sin(q3)*sin(q5))/2199023255552000 -
(8992994907673531*cos(q3)*cos(q4)*cos(q5)*cos(q6)*sin(q2))/2199023255552000;
,0;
]
```