Input =
$A\,B - B\,A$
$-1 + G\,G^{-1}$
$-1 + H\,H^{-1}$
$A\,iA - iA\,A$
$B\,iA - iA\,B$
$A\,iB - iB\,A$
$B\,iB - iB\,B$
$Q - iA\,iB + iB\,iA$
$-1 + G^{-1}\,G$
$-1 + H^{-1}\,H$
$iA\,A - A^T\,iA^T$
$-1\,iA\,A + A^T\,iA^T$
$-1\,A^T\,B^T + B^T\,A^T$
$iB\,B - B^T\,iB^T$
$-1\,iB\,B + B^T\,iB^T$
$A - G^T\,A^T$
$-1\,A + G^T\,A^T$
$-1 + G^T\,G^{T-1}$
$B - H^T\,B^T$
$-1\,B + H^T\,B^T$
$-1 + H^T\,H^{T-1}$
$A\,iA - iA^T\,A^T$
$-1\,A\,iA + iA^T\,A^T$
$-1\,A^T\,iA^T + iA^T\,A^T$
$-1\,B^T\,iA^T + iA^T\,B^T$
$-1\,A^T\,iB^T + iB^T\,A^T$
$B\,iB - iB^T\,B^T$
$-1\,B\,iB + iB^T\,B^T$
$-1\,B^T\,iB^T + iB^T\,B^T$
$-1 + G^{T-1}\,G^T$
$-1 + H^{T-1}\,H^T$
$-1\,A + A\,iA\,A$
$-1\,B + B\,iB\,B$
$-1\,iA + iA\,A\,iA$
$-1\,iB + iB\,B\,iB$
$A\,G - A^T$
$A^T\,iA^T\,A^T - A^T$
$-1\,A\,G + A^T$
$B\,H - B^T$
$B^T\,iB^T\,B^T - B^T$
$-1\,B\,H + B^T$
$iA^T\,A^T\,iA^T - iA^T$
$iB^T\,B^T\,iB^T - iB^T$
$iA^T\,iB^T - iB^T\,iA^T + Q^T$
File Name = ABbothEPproblem1b
NCMakeGB Iterations = 2
NCMakeGB on Digested Iterations = 0
SmallBasis Iterations = 0
SmallBasis on Knowns Iterations = 0
Deselect→ {}
UserSelect→ {}
UserUnknowns→ {}
NCShortFormulas→-1

RR→True
RRByCat→False
SB→False
SBByCat→False
DegreeCap→-1
DegreeSumCap→-1
DegreeCapSB→-1
DegreeSumCapSB→-1
NCCV→False
THE ORDER IS NOW THE FOLLOWING:
$iB < iB^T < B < B^T < iA < iA^T < A < A^T < H < H^{-1} < H^T < H^{T-1} < G < G^{-1} < G^T < G^{T-1} < Q < Q^T$

YOUR SESSION HAS DIGESTED
THE FOLLOWING RELATIONS

THE FOLLOWING VARIABLES HAVE BEEN SOLVED FOR:
$\{Q\}$
The corresponding rules are the following:
$Q \to 0$

The expressions with unknown variables {}
and knowns $\{A, B, G, H, iA, iB, G^{-1}, H^{-1}, A^T, B^T, G^T, H^T, iA^T, iB^T, Q^T, G^{T-1}, H^{T-1}\}$

$A\,B \to B\,A$

$A\,G \to A^T$

$A\,iA \to iA\,A$

$A\,iB \to iB\,A$

$B\,H \to B^T$

$B\,iB \to iB\,B$

$G\,G^{-1} \to 1$

$H\,H^{-1} \to 1$

$iA\,B \to B\,iA$

$iA\,iB \to iB\,iA$

$G^{-1}\,G \to 1$

$H^{-1}\,H \to 1$

$A^T\,B^T \to B^T\,A^T$

$A^T\,iA^T \to iA\,A$

$A^T\,iB^T \to iB^T\,A^T$

$B^T\,iB^T \to iB\,B$

$G^T\,A^T \to A$

$G^T\,G^{T-1} \to 1$

$H^T\,B^T \to B$

$H^T\,H^{T-1} \to 1$

$iA^T\,A^T \to iA\,A$

$iA^T\ B^T \to B^T\ iA^T$

$iA^T\ iB^T \to iB^T\ iA^T - Q^T$

$iB^T\ B^T \to iB\ B$

$G^{T\,-1}\ G^T \to 1$

$H^{T\,-1}\ H^T \to 1$

$iA\ A\ A \to A$

$iA\ A\ A^T \to A^T$

$iA\ iA\ A \to iA$

$iB\ B\ B \to B$

$iB\ B\ B^T \to B^T$

$iB\ iB\ B \to iB$

$iA^T\ iA\ A \to iA^T$

$iB^T\ iB\ B \to iB^T$

$Q^T\ iA\ B^T \to 0$

$B\ iB^T\ iA\ B^T \to H^T\ iA\ B^T$

$iA\ G\ iB\ B \to iB\ B\ iA\ G$

$iB\ B\ iA\ B^T \to iA\ B^T$

$iB\ B\ iA\ iB^T \to iA\ iB^T$

$A^T\ iB\ iA\ A \to A^T\ iB$

$G^T\ iB\ iA\ A \to A\ iA^T\ iB$

$iA^T\ G\ iB\ B \to iB\ B\ iA^T\ G$

$iA^T\ iB\ iA\ A \to iA^T\ iB$

$iA^T\ iB\ iA\ A^T \to iA^T\ iB\ G$

$iB^T\ H\ iA\ A \to iB^T\ iA\ A\ H$

$iB\ B\ iA\ iA\ B^T \to iA\ iA\ B^T$

$iB\ B\ A^T\ iA\ B^T \to A^T\ iA\ B^T$

$iB\ B\ iA^T\ iA\ B^T \to iA^T\ iA\ B^T$

$iA^T\ iB\ iB\ iA\ A \to iA^T\ iB\ iB$

$iA^T\ iB\ B^T\ iA\ A \to iA^T\ iB\ B^T$

$iA^T\ iB\ iB^T\ iA\ A \to iA^T\ iB\ iB^T$

USER CREATIONS APPEAR BELOW

SOME RELATIONS WHICH APPEAR BELOW
MAY BE UNDIGESTED

THE FOLLOWING VARIABLES HAVE NOT BEEN SOLVED FOR:
$\{A,\ B,\ G,\ H,\ iA,\ iB,\ G^{-1},\ H^{-1},\ A^T,\ B^T,\ G^T,\ H^T,\ iA^T,\ iB^T,\ Q^T,\ G^{T-1},\ H^{T-1}\}$

The time for preliminaries was 0:00:00
The time for NCMakeGB 1 was 0:00:00
The time for Remove Redundant 1 was 0:00:01
The time for the main NCMakeGB was 0:00:13
The time for Remove Redundant 2 was 0:00:18
The time for reducing unknowns was 0:00:00
The time for clean up basis was 0:00:00
The time for SmallBasis was 0:00:00
The time for CreateCategories was 0:00:02
The time for NCCV was 0:00:00
The time for RegularOutput was 0:00:00
The time for everything so far was 0:00:34