ACM's Sixteenth North American Computer Chess Championship

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HITECH, a program developed at Carnegie-Mellon University by a group of researchers under the direction of Hans Berliner, finished first in the ACM Sixteenth North American Computer Chess Championship held during the Association's annual conference in October 1985. The field of 10 was the smallest in many years while the level of play was the best yet.

The tournament may have marked the emergence of a new era in computer chess. The 1970s were the years of the CHESS series programs developed at Northwestern University by David Slate, Larry Atkin, and Keith Gorlen. The period from 1979 to 1983 marked the reign of BELLE, developed by Ken Thompson and Joe Condon of AT&T Bell Laboratories. BELLE was World Champion from 1980 through 1983, when it was dethroned by the current World Champion CRAY BLITZ running on a Cray X/MP computer. CRAY BLITZ was developed at the University of Southern Mississippi by Robert Hyatt, Burt Gower, and Harry Nelson. Now CRAY BLITZ seems to have been dethroned by HITECH. The week before the ACM tournament, HITECH participated in a tournament for human masters and won with an impressive 3½–½ score earning a performance rating of

2486. Berliner, former World Correspondence Chess Champion, predicts that "in the next five to ten years, HITECH will be ready to take on the top ten players in the world in a match." HITECH searches trees at a rate of 175,000 nodes/second, while running on a SUN workstation with a specially designed VLSI chip attached that permits the high-search speeds. Berliner is optimistic that HITECH can achieve a 2400 USCF (United States Chess Federation) rating by the summer of 1986 and then possibly take on David Levy in a six-game match in November in Las Vegas to see whether HITECH can finally surpass the English International Master. Levy beat CHESS 4.9 in 1978 to win a sizable bet made 10 years earlier that no computer could defeat him in a match during the coming 10 years. Levy also defeated the current World Champion program CRAY BLITZ 4–0 in a match in London in 1983 at the end of a five-year bet.

Finishing second for the third consecutive year was BEBE, written by Tony Scherzer of SYS-10, Hoffman Estates, Illinois, with a 3–1 score. A surprising, clear third place finish was achieved by INTELLIGENT SOFTWARE, the joint effort of Levy, Mark Taylor, and Kevin O'Connell of Intelligent Software, London, England. CRAY

BLITZ had to settle for a fifth place finish and an even 2–2 score.

The Play
The first round saw routine victories by the first and third seeds, CRAY BLITZ and BEBE, while after a considerable struggle, the highly touted HITECH overcame a strong challenge from Burton Wendroff's LACHEX, which ran on a Cray 1M computer at Cray Research in Chippewa Falls, Wisconsin. There was also a minor upset when INTELLIGENT SOFTWARE defeated CHAOS after the latter, in an excellent position, tried an interesting positional sacrifice of its Queen for Rook and Knight. After great complications, newcomer SPOC fell apart against PHOENIX.

Round 2 saw the head-to-head encounter between CRAY BLITZ and BEBE. Despite lacking its openings transposition table due to hardware problems, BEBE obtained excellent attacking chances in a Sicilian Dragon with Kings castled on opposite wings and an early departure from theory (the fully annotated game follows). Despite considerable complications BEBE found a way to press its attack and force CRAY BLITZ's resignation in a piece-down endgame. This loss marked the first

The authors would also like to express gratitude to FIDE Master Boris Baczynskyjs; some of the authors' notes are based on Baczynskyjs's analysis in *CHESS LIFE*. Comments in brackets are those of Monty Newborn, who based his remarks on computer printouts provided by the authors of HITECH and CRAY BLITZ.

Symbols
!! = An outstanding move
! = A very good move
!? = An interesting move
?! = A dubious move
? = A mistake
?? = A blunder

CRAY BLITZ versus BEBE Round 2

**1. e4 c5   2. Nf3 d6   3. d4 cxd4
4. Nxd4 Nf6   5. Nc3 g6   6. Bg5**

The authors of CRAY BLITZ, which boasted the largest Opening book in the tournament, like to steer their program into unusual channels as per the text move.

**6. ... Bg7   7. Qd2 Nc6
8. O-O-O O-O   9. Nb3**

Usually White tries to initiate the "Yugoslav Attack" against Black's *Dragon Defense* with f3, h4, g4, etc., but here the White Knight on d4 is unstable and hence White tries to find a safe home for it. Alternatives such as 9. Nxc6 bxc6 10. e5!? Ne8 (10. ... Nd5 and 10. ... Ng4 deserve attention) 11. exd6 Nxd6 12. Bxe7 Qxe7 13. Qxd6 Qg5+ 14. Qd2 Qa5 15. Bc4 Rb8 16. Bb3 Bf5 as occured in Rauzer–Kan, 1936, give White no advantage.

9. ... Re8?!

BEBE probably tries to avoid the trade of its *Dragon Bishop* by enabling ... Bh8 after Bh6. The more natural, "human" move is 9. ... Be6. A program is not apt to make such a move because most are penalized for developing their Bishops in front of their central Pawns—a legacy of misplaced clergymen in an earlier era of computer chess.

10. Bc4?!

This piece is clearly "loose" and misplaced here. CRAY BLITZ's choice is comprehensible on the grounds that it develops White's last minor piece to its most mobile and center-oriented square (even aiming at the Black King), but as is typical of computer play, it is not part of any coherent plan. Better is 10. Be2 with the idea of 11. h4 and 12. h5 [This is CRAY BLITZ's first move out of book. It examined 25,105,612 positions in just under four minutes and predicted 10. ... Bd7 11. Qf4 Ne5 12. Be2 Kf8 13. Nd5 Nxd5 14. Rxd5. CRAY BLITZ typically examined about 10 to 15 million positions on each move.]

10. ... Ng4?!

Another dubious move, most probably because BEBE mistakenly thinks that 11. ... Bxc3 is a threat.

11. h3 Nge5

... but probably only now saw that 11. ... Bxc3? 12. Qxc3 Nxf2? loses to 13. Rhf1.

12. Bb5?!

Again, a human would probably retreat this Bishop to e2 not subjecting it to further harassment and threatening f4, and then on 12. ... Be6 13. Nd5.

12. ... a6   13. Be2 a5?!

Instead of ceding the b5-square to White, humans would have a notion of how 13. ... b5 with ... Nc4 to follow would fit into a general plan of attack on the White King.

14. Bb5

Computer programs are unprejudiced when it comes to moving pieces more than once to achieve mobility and tactical ends. Hereby ... a4 is detained, but 14. a4 was a viable alternative.

14. ... Be6   15. Nd5?

Since Black can now force play with 15. ... a4. 15. a4 was still indicated; CRAY BLITZ probably did not relish the shattering of its Q-side pawn formation after 15. a4 Bxb3, but then White's position is really not bad.
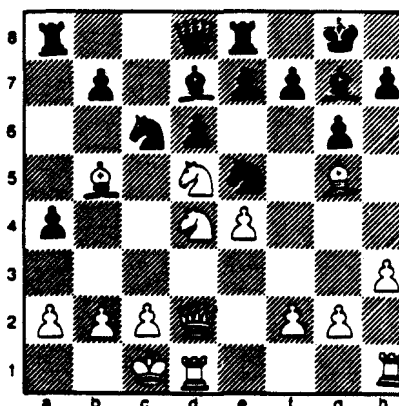
15. ... a4   16. Nd4 Bd7!

FIGURE 1.   Position after 16. ... Bd7!

A strong move because it exposes the insecurity of White's actively and centrally posted pieces, although 16. ... Nxd4!? with tremendous complications, also deserves attention. [CRAY BLITZ predicted Black's move and saw the game continuing 17. Nxc6 bxc6 18. Nxe7+ Rxe7 19. Bxe7 Qxe7 20. Be2.]

17. Nxc6?

Initiating a misdirected sequence that results in a decisive material gain for Black. However, after 17. Ne2 or 17. Nf3 Black would have few problems if 17. ... Na5 is played.

**17. ... bxc6   18. Nxe7+ Rxe7
19. Bxe7 Qxe7   20. Be2**

Now that the smoke has cleared, CRAY BLITZ probably expected to

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gain a slight material advantage with 20. Qxd6. However. there is never time for this capture because the White King proves to be inadequately defended as the Black minor pieces continuously harass him.

20. ... Qe6! 21. Kb1

If 21. Qxd6 Qxa2 22. f4 a3 and Black quickly crashes through. [CRAY BLITZ, on its seventh iteration. figured that 21. Qxd6 Qxa2 22. f4 Nc4 23. Bxc4 Qxb2+ 24. Kd2 Qc3+ 25. Kc1 Qb2+ results in a Draw and on the eighth iteration felt 21. Kb1 gives it a slightly positive score.]

21. ... Rb8 22. b3

If 22. Qxd6 Rxb2+ 23. Kxb2 Nc4+ wins.

22. ... axb3 23. cxb3 Be8

BEBE has conducted its attack quite well. but players who hate retreating might prefer moves such as 23. ... Nc4 or 23. ... d5 or 23. ... Nf3! which when followed by 24. ... Qf6 or 24. ... Qe5 probably leads to an irrepressible attack that most strong humans would enjoy and most machines would not touch. In any case, White's King position seems too compromised for successful resistance.

24. Kc2

White's tries to guard the P/b3 since on 24. Qxd6? Rxb3+ is decisive. [CRAY BLITZ saw the game continuing 24. ... Ra8 25. Kc1 Qf6 26. f4 Nc4 27. e5 Nxd2 28. exf6 still leading to a slightly positive score.]

24. ... Nd7 25. f3 Ra8 26. Kc1 Nc5

Threatening 27. ... Nxb3+ 28. axb3 Ra1+ 29. Kc2 Ra2+. [CRAY BLITZ realized that 26. ... Bh6 27. f4 (if 27. Qxh6 Rxa2 wins) Qxe4 28. g3 d5 29. Bd3 Qf3 30. Rhg1

leaves it down a Pawn. It saw its own score go negative for the first time on move 25 when it anticipated 25. ... Ra8 26. Kc1 Qf6 27. Bd3 Ra5 28. b4 Qa1+ 29. Bb1.]

27. Qc2 Qf6 28. Bc4

One would expect the materialistic machine to try 28. a4 to save the threatened a-Pawn. but CRAY BLITZ can appreciate that 28. a4 Rb8 29. Bc4 Bh6+ 30. Kb1 Nxa4 is even worse.

28. ... Qa1+ 29. Kd2 Qxa2 30. Qxa2 Rxa2+ 31. Kc1 d5!

A very fine and *humanlike* Pawn sacrifice that activates Black's only misplaced piece. although it probably stems from the machine's ability to see that it will receive more than sufficient interest for its small investment.

32. exd5 cxd5 33. Bxd5

If 33. Rhe1 Bc6 34. Bxd5 Rxg2! 35. Bc4 (35. Bxc6? Nxb3+ 36. Kb1 Rb2 checkmate; 35. b4 Bb2+ 36. Kb1 Na4: 35. f4 Rf2 is sufficient for Black to win) 35. ... Bb2+ 36. Kb1 Bxf3 (analysis by Baczynskyjs). If 33. Rxd5 Ra1+.

33. ... Bb5! 34. Rhe1

CRAY BLITZ walks into a Knight fork. but by now there is nothing better. If 34. Bc4 Bxc4 35. Rd8+ (35. bxc4 Nb3+ 36. Kb1 Rb2 checkmate) 35. ... Bf8 36. bxc4 Ra1+; if 34. b4 Nd3+ 35. Rxd3 Ra1+.

34. ... Nd3+ 35. Rxd3 Bxd3

The complications are over. BEBE lumbers through the rest surefooted. if not always elegantly.

36. Re8+ Bf8 37. g4 Kg7 38. Re3 Ba3+ 39. Kd1 Ra1+ 40. Kd2 Bf1 41. Kc3 Rc1+ 42. Kd2 Rc5 43. Ke1 Bxh3 44. Bc4 h5 45. gxh5 gxh5 46. Kf2 h4 47. Rd3 Bf5 48. Rd4 h3 49. Rh4 Rc7 50. Rh5 (0-1).

Although both programs made a number of errors in the transition

phase from Opening to Middle-game play. BEBE's capitalization on its advantage after 19. ... Qxe7 was quite impressive overall.

BEBE versus HITECH
Round 3

After BEBE's stunning victory over World Computer Chess Champion CRAY BLITZ, the following proved to be the key encounter between the tournament leaders.

1. e4 e5 2. Nf3 Nc6 3. Bb5 a6 4. Ba4 Nf6 5. O-O b5 6. Bb3 Bb7

The Archangel Variation, named for the White Sea port city, is one of the sharpest and lesser known defenses to the Ruy Lopez. White's next enters the main line.

7. Re1 Bc5 8. c3 d6 9. d4 Bb6 10. a4

The first departure from main-line theory (10. Bg5). although this move is in the book for both programs.

10. ... h6 11. axb5 axb5 12. Rxa8 Qxa8 13. Na3 exd4!

Since there is no convenient way for Black to defend his P/b5 and 13. ... b4 is strongly met by 14. Nc4, HITECH opts for central counterplay.

14. cxd4?!

Better is 14. Nxb5 O-O 15. Nbxd4 (15. cxd4 Na5 would transpose into the next note) 15. ... Nxd4 16. Nxd4 Bxe4 = Kostro versus Ceshkovsky, 1969.

14. ... Ba6?

HITECH, no longer having the crutch of its Opening book. immediately errs by misplacing its Bishop. It is precisely here where some further book knowledge is most pertinent for survival in this complex variation [HITECH expects 15. d5 Ng4 16. Re2 Na5 17.

Bc2 O-O]. Correct is 14. ... O-O
15. Nxb5 (15. e5 dxe5 16. dxe5 Ng4
17. Re2 Rd8 with a strong initia-
tive for Black) 15. ... Na5 and
Black will win back the Pawn
with the advantage, for example:

1) 16. Bc2 Nxe4

2) 16. Nc3 Nxb3 17. Qxb3 Bxe4

3) 16. e5? dxe5 (16. Nxe5 Nxb3 17.
Qxb3 Bxg2; 16. Rxe5 Bxf3 17. gxf3
Nxb3 18. Qxb3 c6 19. Nc3 Bxd4)
17. dxe5 Ng4 18. Rf1 Rd8 and
White will not be able to protect
all its weaknesses.

4) 16. d5? Nxb3 17. Qxb3 Nxe4!
(Gulko versus Bajkov, 1975).

15. e5! dxe5 16. dxe5

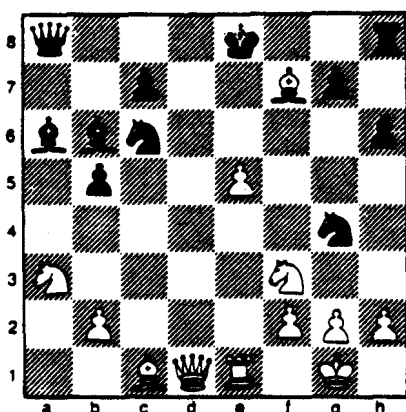16. d5 also deserves attention.

16. ... Ng4 17. Bxf7+!?

FIGURE 2. Position after 17. Bxf7+

[After 16. ... Ng4, HITECH
thought the game would continue
17. Re2 b4 18. Nc4 Qa7 19. Nxb6
Qxb6.] A typical computer move
based on shallow materialism. If
17. ... Kxf7? 18. Qd7+ Kg8 19.
Qxg4 and White is a Pawn up with
a fine position. Though BEBE's
Bishop offer is sound enough,
more critical is 17. e6! Bxf2+ (17.
... Nxf2? 18. Qd7+ Kf8 19. Qf7#)
18. Kh1 O-O 19. exf7+ (if 19. e7!?,
both 19. ... Re8 20. Bxf7+! Kxf7
21. Qd5+ Kg6 22. Qe4+ Kh5 23.
Qf5+ g5 24. Qf7# and 19. ... Rc8
20. Bxf7+ Kxf7 21. Qd5+ Ke8 22.

Qg8+ Kd7 23. e8 = Q+ Rxe8 24.
Qd5+ lose, but 19. ... Nxe7! 20.
Rxe7 Bc5 21. Re2 Nf2+ 22. Rxf2
Bxf2 results in an unclear posi-
tion) 19. ... Kh8 (analysis by Bac-
zynskyjs). In this final position it
seems that White stands better
because Black's King seems in
greater peril, but to substantiate
this feeling would require more
space and analysis than are rea-
sonable for this task. There is the
tame 20. Re4 as well as 20. h3 and
20. Nh4, rife with exciting branch
variations. Perhaps such a position
is a bit too much for the human
mind—and for the computer, too.
BEBE, easily one of the top five
programs in the world, lacks the
ability to cope with the deep com-
binative complexities hidden in
this position, and it is even further
handicapped by the inability to
make intuitive judgements such as
"good attacking chances" at the
end of long-forced variations.

17. ... Ke7! 18. Kf1?

[After playing 17. ... Ke7, HITECH
thought the game would continue
with 18. e6 Bxf2+ 19. Kh1 Rd8
20. Qc2 Bxe1 21. Qc5+; for the
first time, its score goes positive.]
This bizarre move onto the diago-
nal of Black's Ba6 repays the com-
pliment for Black's boner on move
14. Though its B/f7 and f-Pawn
are menaced, BEBE has plenty of
reasonable tries, such as:

1) 18. Re2 Nxf2 19. Rxf2 Bxf2+ 20.
Kxf2 Kxf7 21. Qd5+ Ke8 22. Be3
and White has a Pawn and good
attacking chances for the ex-
change.

2) 18. Be3 Nxe3 19. fxe3 Kxf7
20. Qd5+ and after any King
move, White plays 21. Nh4 with
an attack easily worth the in-
vested piece.

3) 18. Qd5 Bxf2+ 19. Kh1 Qc8, etc.

**18. ... b4+! 19. Nc4 Rd8
20. Qc2**

The best try, since Black has no

problems winning on 20. Qb3 Na5
21. Qxb4+ Kxf7 and 20. Qe2 Kxf7.
[HITECH thought White should
have played 20. Nfd2 and then on
20. ... Qc8 21. h3 Bxf2 22. Re4
Bxc4+.]

20. ... Kxf7?

After two accurate moves exploit-
ing White's strange 18th move,
HITECH slips again. The convinc-
ing continuation is: 20. ... Nd4
21. Nxd4 (21. Qg6 Nxf3+ wins)
21. ... Rxd4 22. Qg6 (22. Qf5 Rxc4
23. Bxc4 Bxc4+ 24. Kg1 Bf2+;
22. Be3 Nh2+ 23. Kg1 Rg4) 22. ...
Nh2+ 23. Kg1 Rg4 winning.

21. Qf5+ Nf6 22. Qc2?

Another inexplicable error by
BEBE, letting its last winning posi-
tion slip by; Black's winning
method is now simple and should
have been within BEBE's tactical
purview. Correct is 22. exf6 Bxc4+
23. Kg1 g6 (23. ... gxf6? 24. Qh7+
Kf8 25. Bxh6#; 23. ... Bd3 24.
Qe6+) 24. Qf4 with the double
threat of 25. Qxc4+ and 25. Qxh6
—and because of Black's exposed
King, White can expect to win.
[HITECH saw this predicting
22. exf6 Bxc4+ 23. Kg1 g6 24. Qf4
Bd5 25. Qxh6 Rg8 26. Qf4 Rd8, but
White mates after 26. Qh7+ Kxf6
(Kf8 Bh6+ mates quickly) 27. Bg5+
Kf5 28. Qh3; HITECH has only
used 23 minutes on its clock to
this point.]

22. ... b3! 23. Qe2

If 23. Qxb3 Na5.

23. ... Nd4! 24. Nxd4 Rxd4
25. Kg1 Bxc4 26. Qf3 Qxf3
27. gxf3 (0-1).

A very complicated struggle in
which neither program was far-
sighted enough to tackle the diffi-
cult problems posed. Instead, as
often happens when computers
play one another, the game was
decided by one side's more weird
and serious inexplicable errors.

Results and Games (Ken Thompson)

		rate	perf	1	2	3	4	total
1	Hitech	2200	2486	7+□	4+■	2+■	5+□	4
2	Bebe	2100	2224	9+■	5+■	1-□	4+□	3
3	Intelligent	0	2005	6+■	9+□	5-■	7=□	2½
4	Phoenix	0	1967	8+■	1-□	7+■	2-■	2
5	Cray Blitz	2200	2045	10+■	2-□	3+□	1-■	2
6	Chaos	1800	1790	3-□	7-■	8+■	10+□	2
7	Lachex	0	1885	1-■	6+□	4-□	3=■	1½
8	Spock	0	1676	4-□	10+■	6-□	9=■	1½
9	Ostrich	1750	1633	2-□	3-■	10=□	8=□	1
10	Awit	1600	1502	5-□	8-□	9=■	6-■	½

Round 1

Awit — Cray Blitz 1 c4 ♘f6 2 ♘c3 c6 3 ♘f3 d5 4 e3 ♗e6 5 d4 d×c4 6 ♘e5 b5 7 e4 b4 8 ♘a4 ♘×e4 9 ♘×c4 ♘d6 10 ♘×d6† e×d6 11 ♗e2 ♗e7 12 O-O O-O 13 ♗d2 a5 14 ♗d3 ♖e8 15 ♕h5 h6 16 ♖fe1 ♗f6 17 ♖e4 d5 18 ♖f4 ♗g5 19 ♖e1 ♗×f4 20 ♗×f4 ♗c8 21 ♖×e8† ♕×e8 22 ♗d2 ♖a7 23 ♘c5 ♘d7 24 ♘×d7 ♕×d7 25 ♕e5 ♕d8 26 ♕b8 ♕c7 27 ♕×c7 ♖×c7 28 h4 c5 29 ♗f4 ♖c6 30 ♗e5 c×d4 31 ♔f1 ♖c1† 32 ♔e2 ♗g4† 33 f3 ♗d7 34 ♗×d4 ♖a1 35 h5 a4 36 g4 a3 37 ♔d2 ♖×a2 38 ♔c2 ♖a1 39 b×a3 ♗a4† 40 ♔b2 ♖d1 0-1

Hitech — Lachex 1 e4 e5 2 ♘f3 ♘c6 3 d4 e×d4 4 ♘×d4 ♗c5 5 ♗e3 ♕f6 6 c3 ♘ge7 7 ♕d2 O-O 8 f4 d6 9 ♘b5 ♗×e3 10 ♕×e3 ♗g4 11 ♘×c7 ♖ac8 12 ♘b5 ♘d5 13 ♕g3 ♕×f4 14 ♕×f4 ♘×f4 15 h3 ♗e6 16 ♘×d6 ♖b8 17 g3 ♘h5 18 g4 ♘g3 19 ♖h2 ♖fd8 20 ♖d2 ♘×f1 21 ♔×f1 ♖d7 22 ♘f5 ♖bd8 23 ♖×d7 ♖×d7 24 ♔g2 ♖d3 25 b3 g6 26 ♘g3 f6 27 ♘h1 ♔g7 28 ♘f2 ♖e3 29 c4 ♘b4 30 ♘a3 ♖e2 31 ♔f3 ♖×a2 32 ♖×a2 ♘×a2 33 ♘d3 ♘c3 34 ♘f4 ♗d7 35 ♘c2 g5 36 ♘d5 ♘×d5 37 c×d5 h5 38 g×h5 ♗×h3 39 ♘d4 ♔h6 40 ♘f5† ♗×f5 41 e×f5 ♔g7 42 h6† ♔f8 43 d6 a6 44 h7 ♔g7 45 d7 ♔×h7 46 d8♕ ♔g7 47 ♕e7† ♔g8 48 ♔g4 a5 49 ♔h5 b6 50 ♔g6 g4 51 ♕e8# 1-0

Ostrich — Bebe 1 e4 c5 2 c3 d5 3 e×d5 ♕×d5 4 d4 e6 5 ♘f3 ♘c6 6 d×c5 ♕×d1† 7 ♔×d1 ♗×c5 8 ♗e3 ♗×e3 9 f×e3 ♘f6 10 ♗b5 O-O 11 ♗×c6 b×c6 12 ♔c1 ♘g4 13 ♖e1 ♖d8 14 h3 ♘f2 15 ♔c2 ♗a6 16 b3 ♗d3† 17 ♔c1 ♗e4 18 ♖f1 ♘d3† 19 ♔c2 ♘b4† 20 ♔b2 ♘c2 21 ♘g5 ♗×g2 22 ♖f2 ♘×e3 23 ♖e2 ♖d3 24 ♘d2 h6 25 ♘ge4 ♗×h3 26 ♔b1 ♖ad8 27 ♘f2 ♗f5 28 ♘de4 ♖d2 29 ♖×d2 ♖×d2 30 ♘h3 ♗×e4† 0-1

Chaos — Intelligent 1 d4 ♘f6 2 c4 g6 3 ♘c3 d5 4 c×d5 ♘×d5 5 e4 ♘×c3 6 b×c3 ♗g7 7 ♗c4 O-O 8 ♘e2 ♘c6 9 ♖b1 a6 10 O-O e6 11 ♗a3 ♖e8 12 ♕a4 ♕h4 13 f3 ♗h6 14 f4 ♕g4 15 g3 ♖b8 16 ♕×c6 b×c6 17 ♖×b8 a5 18 ♖fb1 ♕f3 19 e5 ♕e3† 20 ♔g2 ♕e4† 21 ♔f2 ♗f8 22 ♗×f8 ♖×f8 23 a3 c5 24 ♖1b2 c×d4 25 ♘×d4 ♗d7 26 ♗e2 ♖×b8 27 ♖×b8† ♔g7 28 ♖d8 ♗a4 29 ♗f3 ♕b1 30 ♘e2 ♕b2 31 ♖c8 ♕b6† 32 ♔g2 ♗c6 33 ♖d8 ♗×f3† 34 ♔×f3 ♕c5 35 ♖c8 h5 36 ♔g2 ♕e3 37 ♔f1 ♕f3† 38 ♔e1 ♕b7 39 ♖d8 c5 40 ♔f2 a4 41 ♔e3 ♕b3 42 ♖d7 ♕×a3 43 ♖c7 ♕b2 44 ♖c8 a3 45 ♖a8 a2 46 ♖a7 a1♖ 47 ♖×a1 ♕×a1 48 ♔d3 ♕h1 0-1

Spock — Phoenix 1 e4 e6 2 d4 d5 3 ♘c3 ♘c6 4 e×d5 e×d5 5 ♕e2† ♗e6 6 ♕b5 a6 7 ♕d3 ♕f6 8 ♗e3 ♘b4 9 ♕d2 ♗f5 10 O-O-O ♗×c2 11 ♖e1 ♕f5 12 a3 ♘d3† 13 ♗×d3 ♗×d3 14 ♗f4† ♘e7 15 ♗×c7 ♖c8 16 ♖e5 ♕g4 17 ♘×d5 f6 18 ♖e3 ♕×g2 19 ♕×d3 ♕×h1 20 ♔d2 ♕×d5 21 ♗b6 ♔f7 22 ♖e1 ♕a2 23 ♕b1 ♕×b1 24 ♖×b1 ♘d5 25 ♗a7 ♖a8 26 ♗c5 ♗×c5 27 d×c5 ♖hd8 28 ♘f3 ♖ac8 29 b4 ♘×b4† 30 ♔e2 ♖e8† 31 ♔d1

♘d3 32 ♖×b7† ♔f8 33 ♔d2 ♘×c5 34 ♖b2
♖cd8† 35 ♔c2 ♖e2† 36 ♔b1 ♖d1† 37 ♔a2
♖×b2† 38 ♔×b2 ♖f1 39 ♘d4 ♖×f2† 40 ♔c3
♖×h2 41 ♔c4 0–1

Round 2

Cray Blitz — Bebe 1 e4 c5 2 ♘f3 d6 3 d4
c×d4 4 ♘×d4 ♘f6 5 ♘c3 g6 6 ♗g5 ♗g7 7
♕d2 ♘c6 8 O-O-O O-O 9 ♘b3 ♖e8 10
♗c4 ♘g4 11 h3 ♘ge5 12 ♗b5 a6 13 ♗e2 a5
14 ♗b5 ♗e6 15 ♘d5 a4 16 ♘d4 ♗d7 17
♘×c6 b×c6 18 ♘×e7† ♖×e7 19 ♗×e7 ♕×e7 20
♗e2 ♕e6 21 ♔b1 ♖b8 22 b3 a×b3 23 c×b3
♗e8 24 ♔c2 ♗d7 25 f3 ♖a8 26 ♔c1 ♘c5 27
♕c2 ♕f6 28 ♗c4 ♕a1† 29 ♔d2 ♕×a2 30
♕×a2 ♖×a2† 31 ♔c1 d5 32 e×d5 c×d5 33
♗×d5 ♗b5 34 ♖he1 ♘d3† 35 ♖×d3 ♗×d3 36
♖e8† ♗f8 37 g4 ♔g7 38 ♖e3 ♗a3† 39 ♔d1
♖a1† 40 ♔d2 ♗f1 41 ♔c3 ♖c1† 42 ♔d2
♖c5 43 ♔e1 ♗×h3 44 ♗c4 h5 45 g×h5 g×h5
46 ♔f2 h4 47 ♖d3 ♗f5 48 ♖d4 h3 49 ♖h4
♖c7 50 ♖h5 0–1

Phoenix — Hitech 1 d4 d5 2 ♗g5 ♘f6 3
♗×f6 e×f6 4 e3 ♗f5 5 c4 ♗×b1 6 ♕×b1 ♗b4†
7 ♔d1 ♗e7 8 c×d5 ♕×d5 9 ♘f3 ♘d7 10
♗d3 h6 11 ♗e4 ♕b5 12 ♕c2 c6 13 ♗d3
♕b6 14 ♘d2 ♕c7 15 ♖c1 a5 16 ♗c4 O-O
17 ♕f5 a4 18 ♗d3 g6 19 ♕g4 f5 20 ♕g3
♕d8 21 ♖f1 a3 22 b3 ♗f6 23 ♘c4 ♗h4 24
♕f4 ♗g5 25 ♕d6 c5 26 d5 ♖a6 27 ♕g3
♘f6 28 ♘d2 ♖d6 29 ♖×c5 ♘×d5 30 ♖c8
♕×c8 31 ♕×d6 ♘c3† 32 ♔e1 ♖d8 33 ♕×a3
♕d7 34 f3 ♕×d3 0–1

Intelligent — Ostrich 1 ♘f3 d6 2 d4 ♘f6 3
♘c3 d5 4 ♗f4 ♘h5 5 e3 ♘×f4 6 e×f4 g6 7
♗b5† c6 8 ♗a4 ♕d6 9 ♘e5 ♗h6 10 g3 O-O
11 ♕e2 f6 12 ♘d3 ♗h3 13 ♗b3 ♘d7 14
♘e4 ♕c7 15 ♘ec5 ♘×c5 16 ♘×c5 ♗h8 17
♖d1 b5 18 ♘e6 ♗×e6 19 ♕×e6 ♕c8 20
♕×c8 ♖f×c8 21 O-O e6 22 ♖fe1 ♖e8 23 a4
♔g8 24 ♖e2 b×a4 25 ♗×a4 ♖ac8 26 ♖de1
♔f7 27 c3 ♖c7 28 b4 ♗f8 29 ♗c2 ♗d6 30
♗d3 ♖ce7 31 ♖a2 ♗b8 32 ♖a6 ♖c8 33 ♖ea1
♔g8 34 ♖6a3 ♖d8 35 ♖a4 ♖d6 36 h4 ♖d8
37 ♖a6 ♖d6 38 ♖6a5 ♔h8 39 ♗e2 ♖d8 40
♖a6 ♖c7 41 h5 ♔g8 42 h×g6 h×g6 43 ♔g2
♖dd7 44 ♗d3 f5 45 ♖e1 ♔f7 46 b5 ♖d6 47
♖b1 ♔g8 48 b×c6 ♖d8 49 c4 ♔f7 50 c×d5
e×d5 51 ♗e2 ♖e7 52 ♗f3 ♗c7 53 ♖×a7 ♔f6
54 ♖bb7 ♖c8 55 ♗×d5 ♖h7 56 ♗c4 ♖g7 57
f3 ♖h7 58 g4 f×g4 59 f×g4 ♖g7 60 g5† ♔e7
61 ♖×c7† 1–0

Lachex — Chaos 1 e4 c5 2 d4 c×d4 3 c3 ♘f6

4 e5 ♘d5 5 ♘f3 ♘c6 6 c×d4 d6 7 ♗c4 ♘b6
8 ♗b5 e6 9 O-O ♗e7 10 ♕c2 ♗d7 11 e×d6
♗×d6 12 h3 a6 13 ♗×c6 ♗×c6 14 ♘c3 O-O
15 ♕d3 f6 16 ♗d2 ♕d7 17 ♖fe1 ♗c7 18
♘e4 ♕d5 19 ♗b4 ♖fd8 20 b3 ♕f5 21 g4
♕g6 22 ♗c5 ♘d7 23 ♗e7 ♖dc8 24 ♗b4
♕h6 25 ♔g2 ♕g6 26 ♘h4 ♕h6 27 ♘f3
♕g6 28 ♘h4 ♕f7 29 ♘f3 e5 30 ♖ac1 a5 31
♗d2 e×d4 32 ♘×d4 ♘e5 33 ♕e2 ♗d5 34
♘b5 b6 35 ♘×c7 ♖×c7 36 ♔g3 ♖×c1 37
♖×c1 ♕e6 38 ♖e1 ♖e8 39 ♘c3 ♗b7 40 f4
♖d8 41 f×e5 ♕×e5† 42 ♕×e5 f×e5 43 ♗e3
♖f8 44 ♔h4 ♖f3 45 ♘b5 ♖f6 46 ♗g5 ♖e6
47 ♘d4 ♖e8 48 ♗f4 e4 49 ♗c7 a4 50 ♗×b6
a×b3 51 a×b3 ♗d5 52 b4 e3 53 ♘f5 e2 54
♗c5 ♖e5 55 ♘e7† ♖×e7 56 ♗×e7 ♗c4 57
♔g3 ♔f7 58 ♗c5 ♗b5 59 ♖a1 ♔e6 60 ♔f2
♔d5 61 ♖a7 g5 1–0

Awit — Spock 1 c4 e6 2 ♘c3 d5 3 c×d5
e×d5 4 d4 ♗b4 5 e3 ♗×c3† 6 b×c3 ♘e7 7
♖b1 O-O 8 ♗a3 ♖e8 9 ♗d3 c6 10 ♕h5
♘g6 11 ♘f3 ♘d7 12 ♖b3 ♘f6 13 ♕g5 h6
14 ♕g3 ♘h5 15 ♕d6 ♘gf4 16 ♗f1 ♕f6 17
♕×f6 ♘×f6 18 ♘e5 ♘g6 19 ♘×g6 f×g6 20
♗d3 ♖e6 21 ♗×g6 ♗g4 22 ♗f5 ♖f6 23 ♗×g4
♗×g4 24 ♖×b7 ♗c8 25 ♖b3 ♗a6 26 ♗c5 ♗d3
27 f3 ♖e8 28 ♔d2 ♗c4 29 ♖b7 ♖fe6 30 ♖e1
♖g6 31 ♖g1 ♖ge6 32 ♖e1 ♖g6 33 ♖g1 ♖ge6
34 ♖×a7 ♖×e3 35 a4 ♖d3† 36 ♔c1 ♖×c3† 37
♔b2 ♖ce3 38 a5 ♖b8† 39 ♔c1 ♖eb3 40 ♖e1
♖b1† 41 ♔d2 ♖8b2† 42 ♔c3 ♖b3† 43 ♔d2
♖d3† 44 ♔c2 ♖×e1 45 ♖a8† ♔h7 46 ♖c8
♖e2† 47 ♔c1 ♗b3 48 ♖h8† 0–1

Round 3

Bebe — Hitech 1 e4 e5 2 ♘f3 ♘c6 3 ♗b5
a6 4 ♗a4 ♘f6 5 O-O b5 6 ♗b3 ♗b7 7 ♖e1
♗c5 8 c3 d6 9 d4 ♗b6 10 a4 h6 11 a×b5 a×b5
12 ♖×a8 ♕×a8 13 ♘a3 e×d4 14 c×d4 ♗a6 15
e5 d×e5 16 d×e5 ♘g4 17 ♗×f7† ♔e7 18 ♔f1
b4† 19 ♘c4 ♖d8 20 ♕c2 ♔×f7 21 ♕f5† ♘f6
22 ♕c2 b3 23 ♕e2 ♘d4 24 ♘×d4 ♖×d4 25
♔g1 ♗×c4 26 ♕f3 ♕×f3 27 g×f3 0–1

Cray Blitz — Intelligent 1 e4 c6 2 d4 d5 3
e5 ♗f5 4 ♗d3 ♗×d3 5 ♕×d3 e6 6 ♘c3 ♘a6
7 ♘f3 ♗e7 8 ♗f4 g5 9 ♗e3 g4 10 ♘g1 ♘b4
11 ♕e2 h5 12 h3 f5 13 e×f6 ♘×f6 14 a3 ♘a6
15 h×g4 ♕b6 16 O-O-O ♘×g4 17 ♖×h5
♖×h5 18 ♕×g4 ♖f5 19 ♕g8† ♖f8 20 ♕×e6
♖f6 21 ♕g8† ♖f8 22 ♕g6† ♔d7 23 ♕g4†
♔d8 24 ♘f3 ♖b8 25 ♘e5 ♕c7 26 ♗h6 ♕c8
27 ♗×f8 ♗×f8 28 ♕f4 ♗e7 29 ♖e1 ♗×a3 30
b×a3 ♕e6 31 ♘f7† ♔d7 32 ♖×e6 ♔×e6 33
♘e5 ♔d6 34 ♕f7 ♖g8 35 ♘c4† d×c4 36

Lachex — Phoenix 1 e4 e6 2 d4 d5 3 ♘c3 ♘c6 4 exd5 exd5 5 ♘f3 ♗f5 6 ♗b5 ♗b4 7 O-O ♘ge7 8 a3 ♗xc3 9 bxc3 O-O 10 ♘h4 ♗e6 11 ♗f4 ♖e8 12 ♕h5 a6 13 ♗d3 ♘g6 14 g3 ♕d7 15 f3 ♘a5 16 ♘xg6 hxg6 17 ♕h4 ♕c6 18 ♗d2 ♘c4 19 ♗xc4 ♕xc4 20 ♖ab1 b5 21 ♕f4 ♗f5 22 ♖b2 ♗h3 23 ♖f2 ♖e2 24 g4 ♖ae8 25 ♖b1 ♖xf2 26 ♔xf2 ♕e2† 27 ♔g3 ♕g2† 28 ♔h4 f6 29 ♕xc7 g5† 30 ♗xg5 fxg5† 31 ♔xg5 ♕xf3 32 ♕f4 ♗xg4 33 ♕xf3 ♗xf3 34 a4 bxa4 35 ♖b6 ♗e2 36 ♔g6 ♖c8 37 c4 ♗xc4 38 ♖b7 ♖c6† 39 ♔g5 ♗b5 40 ♖d7 a3 41 ♖e7 a2 42 ♖e8† ♔f7 43 ♖e1 0-1

Spock — Chaos 1 d4 ♘f6 2 c4 e6 3 ♘f3 b6 4 ♗f4 ♗b4† 5 ♗d2 ♘c6 6 ♗xb4 ♘xb4 7 ♕d2 a5 8 ♘c3 ♗b7 9 O-O-O ♘e4 10 ♘xe4 ♗xe4 11 b3 ♘f6 12 ♔b2 h6 13 ♕e3 ♕f5 14 g4 ♕xg4 15 ♖g1 ♕f5 16 ♘h4 ♕h7 17 ♕g3 g5 18 ♕xc7 gxh4 19 a3 ♘c6 20 f3 ♗g6 21 e4 ♖b8 22 ♕f4 ♕g7 23 e5 a4 24 bxa4 ♖a8 25 ♗d3 h3 26 ♗b1 ♖xa4 27 ♗c2 ♖xc4 28 ♗b3 d5 29 ♗xc4 dxc4 30 ♖g3 ♘e7 31 ♕c1 b5 32 ♖xh3 ♘d5 33 ♔a1 ♔e7 34 ♕b2 b4 35 ♕c1 c3 36 ♖g3 b3 37 ♖g2 ♖b8 38 ♖dd2 cxd2 39 ♕c5† ♔e8 40 ♕c6† ♔d8 41 ♕d6† ♔c8 42 ♕c6† ♘c7 43 ♖xd2 ♗c2 44 ♔b2 ♕g1 45 ♕b7† ♖xb7 46 a4 ♕a1† 47 ♔xa1 b2† 48 ♔a2 b1♕† 49 ♔a3 ♖b3# 0-1

Ostrich — Awit 1 e4 c5 2 c3 ♘f6 3 e5 ♘d5 4 d4 cxd4 5 cxd4 ♘c6 6 ♘f3 d6 7 ♗c4 ♘b6 8 ♗b5 e6 9 O-O ♗d7 10 ♘c3 dxe5 11 dxe5 ♗c5 12 ♗xc6 ♗xc6 13 ♕xd8† ♖xd8 14 ♗g5 ♖d7 15 ♖fb1 h6 16 ♗h4 ♘c4 17 b3 ♗xf3 18 bxc4 ♗c6 19 ♘e2 ♖d2 20 ♖d1 ♖xd1† 21 ♖xd1 g5 22 ♗g3 O-O 23 h3 f6 24 exf6 ♖xf6 25 h4 ♔f7 26 h5 e5 27 ♘c1 e4 28 ♘b3 ♖f5 29 ♘xc5 ♖xc5 30 ♖d6 ♔g7 31 ♖g6† ♔h7 32 ♗d6 ♖xc4 33 ♗e5 ♖c1† 34 ♔h2 a6 35 ♖g7† ♔h8 36 ♖xg5† ♔h7 37 ♖g7† ♔h8 38 ♖xb7† ♔g8 39 ♖g7† ♔f8 40 ♖c7 ♔g8 41 ♗f4 ♖c5 42 g4 ♖c2 43 ♔g1 a5 44 a3 ♗a4 45 ♖b7 ♖c6 46 ♖b8† ♔f7 47 ♖b7† ♔g8 48 ♖b8† ♔f7 49 ♖b7† ♔g8 ½-½

Round 4

Hitech — Cray Blitz 1 e4 e5 2 ♘f3 ♘c6 3 d4 exd4 4 ♘xd4 ♘f6 5 ♘xc6 bxc6 6 ♗d3 d5 7 ♕e2 ♗g4 8 f3 ♗e6 9 exd5 ♘xd5 10 ♗f5 ♕h4† 11 ♔f1 ♕f6 12 ♗xe6 ♕xe6 13 c4 ♕e2† 14 ♔xe2 ♘b6 15 b3 ♗d6 16 ♘c3 O-O 17 ♗e3 ♗e5 18 ♖ac1 ♖fe8 19 ♔f2 ♖ad8 20 f4 ♗f6 21 ♖hd1 ♖xd1 22 ♘xd1 h5

23 ♘c3 ♔h7 24 ♘e2 ♖d8 25 ♔f3 ♔g6 26 ♘g3 h4 27 f5† ♔h7 28 ♘e4 ♗e7 29 ♔g4 ♖e8 30 ♗f2 ♘d7 31 ♔h3 a6 32 ♖d1 ♘f6 33 ♖e1 ♘xe4 34 ♖xe4 ♔g8 35 ♗d4 ♔f8 36 c5 f6 37 ♖xh4 ♖d8 38 ♖h8† ♔f7 39 ♖xd8 ♗xd8 40 ♔g4 ♗e7 41 h4 ♔e8 42 ♔f4 ♗d8 43 g4 ♗e7 44 ♔e4 ♗d8 45 ♗e3 ♗e7 46 a4 ♔d8 47 ♔d4 ♔c8 48 g5 fxg5 49 hxg5 ♔d8 50 ♔e5 ♔d7 51 f6 ♗f8 52 a5 g6 53 ♗d4 1-0

Bebe — Phoenix 1 e4 e6 2 d4 d5 3 ♘d2 ♘f6 4 e5 ♘g8 5 ♘gf3 c5 6 dxc5 ♗xc5 7 ♗b5† ♗d7 8 ♗xd7† ♘xd7 9 O-O ♗b6 10 c4 ♘e7 11 cxd5 exd5 12 ♕b3 ♖c8 13 ♖d1 O-O 14 ♘f1 ♘c5 15 ♕b5 a6 16 ♕e2 ♘e6 17 ♘g3 f6 18 exf6 ♖xf6 19 a3 ♕d7 20 ♘e4 ♖f5 21 ♕d2 ♕c6 22 ♘g3 ♖f6 23 ♕e1 ♕c2 24 ♗d2 ♖c4 25 ♖ac1 ♕a4 26 ♘h5 ♖g6 27 ♖xc4 dxc4 28 ♘e5 ♘d4 29 ♘xg6 hxg6 30 ♘xg7 ♕c2 31 ♘e6 ♘b3 32 ♘g5 ♘d4 33 ♖c1 ♕d3 34 ♕xe7 1-0

Intelligent — Lachex 1 ♘f3 d5 2 c4 c6 3 b3 ♘f6 4 ♗b2 dxc4 5 bxc4 e6 6 ♗d4 ♗e7 7 ♕a4 O-O 8 ♘c3 c5 9 ♗xf6 ♗xf6 10 ♕b5 ♗xc3 11 dxc3 ♕f6 12 ♖c1 b6 13 e3 ♗b7 14 ♗e2 ♘c6 15 ♕b1 ♖d8 16 ♗d3 g6 17 ♗e4 ♕g7 18 ♘g5 h6 19 ♘f3 f5 20 ♗xc6 ♘xc6 21 O-O ♘e5 22 ♘xe5 ♕xe5 23 ♖fd1 ♖xd1† 24 ♖xd1 ♕xc3 25 ♕b5 ♕c2 26 ♕b3 ♕e2 27 ♕a4 ♖f8 28 g3 ♖f7 29 ♖d8† ♔g7 30 ♕b3 e5 31 ♕c3 ♖e7 32 a3 ♔f7 33 ♖d5 ♕f3 34 a4 ♕e4 35 ♕b3 h5 36 a5 h4 37 axb6 axb6 38 ♕d3 hxg3 39 hxg3 ♕xd3 40 ♖xd3 e4 41 ♖d6 ♖e6 42 ♖d7† ♖e7 43 ♖d6 ♖e6 44 ♖d7† ♖e7 45 ♖d6 ½-½

Ostrich — Spock 1 e4 e5 2 ♘f3 ♘c6 3 ♗b5 a6 4 ♗xc6 dxc6 5 d4 exd4 6 ♕xd4 ♕xd4 7 ♘xd4 ♘f6 8 O-O ♗c5 9 c3 ♘xe4 10 ♖e1 f5 11 f3 O-O 12 fxe4 ♖d8 13 exf5 ♗xf5 14 ♗e3 ♗xd4 15 ♗xd4 ♖d7 16 ♖c1 ♖e8 17 ♔f2 ♖de7 18 ♔f3 ♖f7 19 ♘d2 ♗e4† 20 ♔e2 ♗xg2† 21 ♔d3 ♗h3 22 ♖e1 ♗f5† 23 ♔c4 ♗e6† 24 ♔d3 ♗f5† 25 ♔c4 ♗e6† 26 ♔d3 ♖f4 27 ♗e5 ♖d8† 28 ♔e3 ♖f7 29 ♘f3 ♗c4 30 ♘d2 ♖d3† 31 ♔e2 ♖xc3† 32 ♔d1 ♖d3 33 ♗c3 ♖f2 34 ♖g1 ♖f7 35 ♔c2 b5 36 b3 b4 37 ♗xb4 ♗b5 38 a4 ♖d4 39 axb5 cxb5 40 ♗c3 ♖d6 41 ♖af1 ♖e7 42 ♗b4 c5 43 ♗xc5 ♖c6 44 b4 ♖e8 45 ♔d1 ♖d8 46 ♖f3 ♖cc8 47 ♖g4 ♖d5 48 ♔e1 ♖cd8 49 ♗e3 ♖d3 50 ♖e4 ♖c3 51 ♘b1 ♖b3 52 ♘d2 ♖b2 53 ♖e6 ♖xb4 54 ♖xa6 ♖h4 55 ♘f1 ♖e8 56 ♖a7 ♖he4 57 ♖g3 g6 58 ♖h3 h5 59 ♖a6 ♖g4 60 ♖g3 ♖xg3 61 hxg3 ♔f7 62 ♖b6 ♖e5 63 ♖b8 g5 64 ♖c8 b4 65 ♖b8 ♖e4 66 ♖b7† ♔e6 67

♔d2 ♖c4 68 ♗×g5 ♖d4† 69 ♔c2 ♖d5 70
♗f4 ♖d4 71 ♗e3 ♖e4 72 ♔d3 ♖g4 73 ♗d4
h4 74 g×h4 ♖f4 75 ♘e3 ♖×h4 76 ♖×b4 ♔f7
77 ♔e2 ♖e4 78 ♔e1 ♔g8 79 ♔d2 ♖h4 80
♔e1 ♖e4 81 ♖c4 ♖e8 82 ♖c7 ♖e4 83 ♗c5
♖e5 84 ♔d1 ♖g5 85 ♔e1 ♖e5 86 ♔d1 ♖g5
87 ♔e1 ♖e5 88 ♔d1 ½–½

Chaos — Awit 1 d4 ♘f6 2 c4 g6 3 ♘c3 d5 4
c×d5 ♘×d5 5 e4 ♘×c3 6 b×c3 c5 7 ♗c4 ♗g7
8 ♘e2 ♗g4 9 ♕b3 c×d4 10 ♗×f7† ♔f8 11 f3
d3 12 f×g4 d×e2 13 ♔×e2 ♕c8 14 ♗e6 ♕×c3
15 ♕×b7 ♕c6 16 ♖f1† ♔e8 17 ♗f7† ♔d8
18 ♖d1† ♕d7 19 ♗f4 ♗d4 20 ♖×d4 ♕d6 21
♖×d6† ♘d7 22 ♖×d7# 1–0