

Supplementary Material for AAAI Submission titled  
*Monte Carlo Tree Search with Heuristic Evaluations using  
Implicit Minimax Backups*

## 1 Appendix A

This appendix includes details of the results of played games to determine the best baseline players.

### 1.1 Parameter Values for Breakthrough and Kalah

Technique	Parameter set
$pd\alpha$	$\{0, 1, \dots, 5, 8, 10, 12, 16, 20, 30, 50, 100, 1000\}$
$det\alpha$	$\{.1, .2, .3, .4, .5, .55, .6, .65, .7, .75, .8, .85, .9\}$
$ege\epsilon$	$\{0, .05, .1, .15, .2, .3, .4, .5, .6, .7, .8, .9, 1\}$
$im\alpha$	$\{0, .05, .1, .15, \dots, .55, .6, .75, 1\}$

Table 1: Parameter value sets.

### 1.2 Breakthrough Playout Optimization

#### 1.2.1 Tournament Results

#### 1.2.2 Tournament Winner Comparisons

Player A	Player B	A Wins	B Wins	Ties
MCTS( $ege0.1, det0.5, efB$ )	MCTS( $ege0.1, efB$ )	738 (78.2%)	262 (26.2%)	0

Table 2: Parameter value sets.