TABLE 1 MODEL COMPARISON

| | | $N_{ m free}$ | $N_{ m data}$ | RMS | $\ln \mathcal{L}$ | BIC | AICc | $\Delta AICc$ |
|--------------------------|---|---------------|---------------|------|-------------------|--------|--------|---------------|
| AICc Favored Model | $K_b, K_c, K_d, K_e, K_f, \dot{\gamma}, \sigma, \gamma$ | 8 | 99 | 3.98 | -214.56 | 591.02 | 571.86 | 0.00 |
| Nearly Indistinguishable | $K_b, K_c, K_e, K_f, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.06 | -216.48 | 590.28 | 573.34 | 1.48 |
| Somewhat Disfavored | $K_b, K_c, K_d, K_e, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 9 | 99 | 3.98 | -214.56 | 595.62 | 574.28 | 2.42 |
| | $K_b, K_c, K_e, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 8 | 99 | 4.06 | -216.48 | 594.87 | 575.71 | 3.85 |
| Ruled Out | $K_b, K_c, K_d, K_f, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.35 | -223.42 | 604.15 | 587.22 | 15.36 |
| | $K_b, K_c, K_d, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 8 | 99 | 4.35 | -223.42 | 608.75 | 589.59 | 17.73 |
| | $K_b, K_c, K_f, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 4.49 | -226.54 | 605.80 | 591.14 | 19.28 |
| | $K_c, K_d, K_e, K_f, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.47 | -226.19 | 609.68 | 592.74 | 20.88 |
| | $K_h, K_c, K_f, K_{add,c}, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.49 | -226.54 | 610.39 | 593.46 | 21.60 |
| | $K_c, K_e, K_f, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 4.54 | -227.81 | 608.34 | 593.68 | 21.82 |
| | $K_c, K_d, K_e, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 8 | 99 | 4.47 | -226.19 | 614.27 | 595.11 | 23.25 |
| | $K_c, K_e, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.54 | -227.81 | 612.93 | 596.00 | 24.14 |
| | $K_c, K_d, K_f, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 4.77 | -232.56 | 617.84 | 603.18 | 31.32 |
| | $K_b, K_c, K_d, K_e, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.76 | -232.34 | 621.98 | 605.05 | 33.19 |
| | $K_c, K_d, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.77 | -232.56 | 622.43 | 605.50 | 33.64 |
| | $K_b, K_d, K_e, K_f, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.79 | -232.78 | 622.86 | 605.92 | 34.06 |
| | $K_c, K_f, \dot{\gamma}, \sigma, \gamma$ | 5 | 99 | 4.90 | -235.17 | 618.45 | 606.12 | 34.26 |
| | $K_b, K_e, K_f, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 4.88 | -234.50 | 621.71 | 607.05 | 35.19 |
| | $K_b, K_c, K_d, K_e, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 8 | 99 | 4.76 | -232.34 | 626.58 | 607.42 | 35.56 |
| | $K_b, K_c, K_e, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 4.89 | -235.01 | 622.74 | 608.08 | 36.22 |
| | K_1 , K_2 , K_3 , K_4 , K_5 , | 8 | 99 | 4.79 | -232.78 | 627.45 | 608.29 | 36.43 |
| | $K_b, K_d, K_e, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 4.19 | -232.16 -235.17 | 623.04 | 608.39 | 36.53 |
| | $K_c, K_f, K_{add_bc}, \gamma, \sigma, \gamma$ | - | | | | | | |
| | $K_b, K_e, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.88 | -234.50 | 626.30 | 609.37 | 37.51 |
| | $K_b, K_c, K_e, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 4.89 | -235.01 | 627.33 | 610.40 | 38.54 |
| | $K_b, K_c, K_d, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.06 | -238.48 | 629.67 | 615.01 | 43.15 |
| | $K_d, K_e, K_f, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.10 | -239.20 | 631.11 | 616.45 | 44.59 |
| | $K_b, K_d, K_f, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.13 | -239.60 | 631.91 | 617.25 | 45.39 |
| | $K_e, K_f, \dot{\gamma}, \sigma, \gamma$ | 5 | 99 | 5.19 | -240.74 | 629.60 | 617.27 | 45.41 |
| | $K_b, K_c, K_d, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 5.06 | -238.48 | 634.26 | 617.33 | 45.47 |
| | $K_d, K_e, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 5.10 | -239.20 | 635.70 | 618.77 | 46.91 |
| | $K_e, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.19 | -240.74 | 634.19 | 619.53 | 47.67 |
| | $K_b, K_d, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 5.13 | -239.60 | 636.50 | 619.57 | 47.71 |
| | $K_b, K_c, \dot{\gamma}, \sigma, \gamma$ | 5 | 99 | 5.26 | -242.30 | 632.72 | 620.39 | 48.53 |
| | $K_b, K_f, \dot{\gamma}, \sigma, \dot{\gamma}$ | 5 | 99 | 5.28 | -242.39 | 632.90 | 620.57 | 48.71 |
| | $K_b, K_c, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.26 | -242.30 | 637.31 | 622.65 | 50.79 |
| | $K_b, K_f, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.28 | -242.39 | 637.50 | 622.84 | 50.98 |
| | $K_c, K_d, K_e, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.32 | -243.40 | 639.52 | 624.86 | 53.00 |
| | $K_d, K_f, \dot{\gamma}, \sigma, \gamma$ | 5 | 99 | 5.39 | -244.66 | 637.43 | 625.10 | 53.24 |
| | K K K K K K K K | 7 | 99 | 5.32 | -243.40 | 644.11 | 627.18 | 55.32 |
| | $K_c, K_d, K_e, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 5 | 99 | 5.45 | -245.40 -245.76 | 639.64 | 627.13 | 55.45 |
| | $K_c, K_e, \dot{\gamma}, \sigma, \gamma$ | _ | | | | | | |
| | $K_d, K_f, K_{add_bc}, \gamma, \sigma, \gamma$ | 6 | 99 | 5.39 | -244.66 | 642.03 | 627.37 | 55.51 |
| | $K_f, \dot{\gamma}, \sigma, \gamma$ | 4 | 99 | 5.54 | -247.15 | 637.82 | 627.87 | 56.01 |
| | $K_b, K_d, K_e, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.41 | -244.95 | 642.61 | 627.95 | 56.09 |
| | $K_c, K_e, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.45 | -245.76 | 644.24 | 629.58 | 57.72 |
| | $K_f, K_{add,c}, \dot{\gamma}, \sigma, \gamma$ | 5 | 99 | 5.54 | -247.15 | 642.42 | 630.09 | 58.23 |
| | $K_b, K_d, K_e, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 7 | 99 | 5.41 | -244.95 | 647.21 | 630.27 | 58.41 |
| | $K_b, K_e, \dot{\gamma}, \sigma, \gamma$ | 5 | 99 | 5.54 | -247.38 | 642.88 | 630.55 | 58.69 |
| | $K_c, K_d, \dot{\gamma}, \sigma, \gamma$ | 5 | 99 | 5.56 | -247.72 | 643.55 | 631.22 | 59.36 |
| | $K_b, K_e, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.54 | -247.38 | 647.48 | 632.82 | 60.96 |
| | $K_c, K_d, K_{add_bc}, \dot{\gamma}, \sigma, \gamma$ | 6 | 99 | 5.56 | -247.72 | 648.15 | 633.49 | 61.63 |

| $ \begin{array}{c} T{\rm Conj_b} & \equiv 2458686.5658 \\ T{\rm Peri_b} & \equiv 2458685.4883 \\ e_b & \equiv 0.0 \\ \omega_b & \equiv 0.0 \\ E_b & \equiv 0.0 \\ \omega_b & \equiv 0.0 \\ E_b & \equiv 0.0 \\ E_c & \equiv 5.9 \\ E_c & \equiv 5.9 \\ E_c & \equiv 5.9 \\ E_c & \equiv 0.0 \\ E_c & \equiv 37.92 \\ E_c & \equiv 37.92 \\ E_c & \equiv 37.92 \\ E_c & \equiv 0.0 \\ E_c & \equiv 37.92 $ | Parameter | Credible Interval | Maximum Likelihood | Units |
|---|------------------------------------|------------------------|-----------------------|-------------------|
| $ \begin{array}{c} Tconj_b & \equiv 2458685.658 \\ Tperi_b & \equiv 2458685.4883 \\ \varepsilon_b & \equiv 0.0 \\ \omega_b & \equiv 0.0 \\ 0.0 & \equiv 5.9 \\ 0.0 & \equiv 0.0 \\ 0.0 & \equiv 0.0$ | Modified 1 | MCMC Step Para | ameters | |
| $ \begin{array}{c} Tconj_b & \equiv 2458685.658 \\ Tperi_b & \equiv 2458685.4883 \\ \varepsilon_b & \equiv 0.0 \\ \omega_b & \equiv 0.0 \\ 0.0 & \equiv 5.9 \\ 0.0 & \equiv 0.0 \\ 0.0 & \equiv 0.0$ | P_b | $\equiv 4.31$ | $\equiv 4.31$ | days |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | Tconj _b | $\equiv 2458686.5658$ | $\equiv 2458686.5658$ | JĎ |
| $ \begin{array}{c} \omega_b \\ K_b \\ Z_b \\ K_b \\ Z_b \\ Z_c \\ = 5.9 \\ Z_c \\ = 2458683.4661 \\ Z_c \\ = 2458681.9911 \\ Z_c \\ = 2458681.3003 \\ Z_c \\ = 2458681.9911 \\ Z_c \\$ | $T_{ m peri_b}$ | $\equiv 2458685.4883$ | $\equiv 2458685.4883$ | $_{ m JD}$ |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | e_b | | | 1. |
| P_c $\equiv 5.9$ days $T conj_c$ $\equiv 2458683.4661$ $\equiv 2458683.4661$ $T peri_c$ $\equiv 2458681.9911$ $\equiv 2458681.9911$ $\equiv 2458681.9911$ $\exists 2458681.9912$ $\exists 3.84$ $m s^{-1}$ $T conj_d$ $\equiv 2458688.9653$ $\equiv 2458688.9653$ $\exists 170 conj_d$ $\equiv 2458688.9653$ $\equiv 2458688.9653$ $\exists 18 conj_d$ $\equiv 2458688.9653$ $\equiv 2458688.99911$ $\equiv 2458688.9653$ $\equiv 24$ | | $\equiv 0.0$ | | |
| $ \begin{array}{c} T_{\rm Conj_c} \\ T_{\rm Conj_c} \\ = 2458683.4661 \\ T_{\rm Conj_c} \\ = 2458681.9911 \\ = 2.0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 18.66 \\ = 18.66 \\ = 0.0 \\ =$ | - | | | _ |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | |
| $\begin{array}{c} e_c \\ \omega_c \\ \omega_c \\ 0 \\ 0.0 \\ \omega_c \\ 0 \\ 0.0$ | 1 conj _e Tperi | | | - |
| ω_c $\equiv 0.0$ Ξ_c ≈ 0.0 Ξ_c ≈ 0.0 Ξ_c | - | | | 3D |
| $ \begin{array}{c} K_c \\ P_d \\ P_d \\ \equiv 18.66 \\ T \\ Conj_d \\ \equiv 2458688.9653 \\ \equiv 2458688.9653 \\ \equiv 2458684.3003 \\ \equiv 2458691.2334 \\ \equiv 2457000.7134 \\ \equiv 245991.2334 \\ \equiv 245991.2334 \\ \equiv 245991.2334 \\ \equiv 2459462.9 \\ \equiv 0.0 \\ \omega_e \\ \equiv 0.0 \\ \omega_e \\ \equiv 0.0 \\ \omega_f \\ \equiv 2459439.45 \\ \equiv 2458685.658 \\ \equiv 2458685.658 \\ \equiv 2458685.4883 \\ $ | | = 0.0 | | radians |
| P_d = 18.66 days $T conj_d$ = 2458688.9653 | K_c | $3.85^{+0.61}_{-0.62}$ | 3.84 | ${ m m~s^{-1}}$ |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | P_d | | $\equiv 18.66$ | days |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | $T_{\text{conj}_{\mathbf{d}}}^{-}$ | $\equiv 2458688.9653$ | $\equiv 2458688.9653$ | ĴD |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $T\mathrm{peri}_{\mathrm{d}}$ | | | $_{ m JD}$ |
| K_d 1.22 $^{+0.62}_{-0.59}$ 237.92 days T_{Conj_e} 2457000.7134 = 2457000.7134 JE T_{peri_e} = 2456991.2334 = 2456991.2334 JE e_e = 0.0 = 0.0 = 0.0 ω_e = 0.0 = 0.0 = 0.0 ω_e = 0.0 = 0.0 = 0.0 K_e 2.63 ± 0.64 2.64 m s ⁻¹ T_{peri_f} = 2459462.9 = 2459462.9 JE T_{peri_f} = 2459439.45 = 2459462.9 JE T_{peri_f} = 2459439.45 = 2458685.4883 JE T_{peri_b} = 2458685.658 = 2458685.4883 JE T_{peri_b} = 2458685.4883 = 2458685.4883 JE ω_b = 0.0 = 0.0 ω_b = 18.66 = 0.0 ω_b = 0.0 | | | | 1. |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | $\equiv 0.0$ | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 0.00 | | |
| $ \begin{array}{llllllllllllllllllllllllllllllllllll$ | | | | |
| $ \begin{array}{c} e_e \\ \omega_e \\ \omega_e \\ \omega_e \\ = 0.0 \\ \omega_e \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ = 0.0 \\ \omega_f \\ = 0.0 \\ = 0.0 \\ \omega_f \\ = 0.0 \\ = 0.0 \\ \omega_f \\ = 0.0 \\ \omega_b \\ = 0.0 \\ \omega_b \\ = 0.0 \\ \omega_b \\ = 0.0 \\ = $ | I conj _e Tpori | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | 312 |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | _ *** | radians |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | ${ m m~s^{-1}}$ |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | P_f° | $\equiv 93.8$ | $\equiv 93.8$ | days |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | Tconj _f | | | - |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $T\mathrm{peri}_{\mathrm{f}}$ | | | JD |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | e_f | | | 1: |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | = 0.0 | | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | K_f | $4.22^{+0.69}_{-0.69}$ | 4.23 | m s |
| $Tconj_b$ $\equiv 2458686.5658$ $\equiv 2458686.5658$ $\exists DD$ $Tperi_b$ $\equiv 2458685.4883$ $\equiv 2458685.4883$ $\exists DD$ ω_b $\equiv 0.0$ $\equiv 0.0$ $\equiv 0.0$ $zonomode color by the color$ | Orbital Pa | arameters | | |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | P_b | | | days |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | - 0 | | | JL |
| K_b 2.88 $^{+0.59}_{-0.6}$ 2.9 m s $^{-1}$ P_c $\equiv 5.9$ $\equiv 5.9$ $\equiv 5.9$ days $T\cos j_c$ $\equiv 2458683.4661$ $\equiv 2458683.4661$ $\equiv 2458681.9911$ $\equiv 2458681.9911$ $\equiv 2458681.9911$ $\equiv 20.0$ $\equiv 0.0$ | | | | radians |
| P_c $\equiv 5.9$ $\equiv 5.9$ days $T\cos j_c$ $\equiv 2458683.4661$ $\equiv 2458683.4661$ $\equiv 2458683.4661$ $\equiv 2458683.4661$ $\equiv 2458681.9911$ $\equiv 260.0$ $\equiv 0.0$ \equiv | | 2.88 + 0.59 | | |
| $T 	ext{conj}_c$ $\equiv 2458683.4661$ $\equiv 2458683.4661$ $\exists D 	ext{Tperi}_c$ $\equiv 2458681.9911$ $\equiv 2458681.9911$ $\exists D 	ext{Tperi}_c$ $\equiv 0.0$ radians K_c $3.85^{+0.61}_{-0.62}$ 3.84 m s ⁻¹ P_d $\equiv 18.66$ | o . | 0.0 | | |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | | | | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | JD |
| K_c $3.85^{+0.61}_{-0.62}$ 3.84 m s ⁻¹ P_d $\equiv 18.66$ $\equiv 18.66$ days $T \operatorname{conj_d}$ $\equiv 2458688.9653$ $\equiv 2458688.9653$ JE $T \operatorname{peri_d}$ $\equiv 2458684.3003$ $\equiv 2458684.3003$ JE e_d $\equiv 0.0$ $\equiv 0.0$ radians K_d $1.22^{+0.62}_{-0.59}$ $\equiv 37.92$ days $T \operatorname{conj_e}$ $\equiv 2457000.7134$ $\equiv 2457000.7134$ JE $T \operatorname{peri_e}$ $\equiv 2456991.2334$ $\equiv 2456991.2334$ JE e_e $\equiv 0.0$ $\equiv 0.0$ radians K_e 2.63 ± 0.64 2.64 m s ⁻¹ K_e 2.63 ± 0.64 2.64 m s ⁻¹ K_e 2459462.9 $\equiv 2459462.9$ $\equiv 2459462.9$ JE K_f 1.69 ± 0.91 1.69 ± 0.0 radians K_f 1.69 ± 0.91 1.69 ± 0.91 1.69 m s ⁻¹ K_f -0.0051 ± 0.0024 -0.0051 m s ⁻¹ A_f | | $\equiv 0.0$ | $\equiv 0.0$ | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | ω_c | | $\equiv 0.0$ | radians |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | K_c | $3.85^{+0.61}_{-0.62}$ | 3.84 | ${ m m~s^{-1}}$ |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | P_d | $\equiv 18.66$ | | days |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | Tconj _d | | | JD |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | JL |
| K_d 1.22 $_{-0.59}^{+0.62}$ 1.18 m s ⁻¹ P_e $\equiv 37.92$ $\equiv 37.92$ days $T \operatorname{conj_e}$ $\equiv 2457000.7134$ $\equiv 2457000.7134$ JE $T \operatorname{peri_e}$ $\equiv 2456991.2334$ $\equiv 2456991.2334$ JE e_e $\equiv 0.0$ $\equiv 0.0$ radians K_e 2.63 \pm 0.64 2.64 m s ⁻¹ P_f $\equiv 93.8$ $\equiv 93.8$ days $T \operatorname{conj_f}$ $\equiv 2459462.9$ $\equiv 2459462.9$ JE $T \operatorname{peri_f}$ $\equiv 2459439.45$ $\equiv 2459439.45$ JE e_f $\equiv 0.0$ $\equiv 0.0$ radians K_f 4.22 $_{-0.69}^{+0.68}$ 3.24 $\equiv 0.0$ radians K_f 4.22 $_{-0.69}^{+0.68}$ 4.23 m s ⁻¹ $T \operatorname{conj_f}$ 1.69 \pm 0.91 1.69 m s ⁻¹ $T \operatorname{conj_f}$ 1.69 \pm 0.91 1.69 m s ⁻¹ $T \operatorname{conj_f}$ 1.69 \pm 0.00 \pm 0.00 m s ⁻¹ $T \operatorname{conj_f}$ 1.69 \pm 0.00 \pm 0 | | | | radian |
| P_e $\equiv 37.92$ $\equiv 37.92$ days $T \operatorname{conj_e}$ $\equiv 2457000.7134$ $\equiv 2457000.7134$ $\exists 2456991.2334$ $\exists 245691.2334$ $\exists 2$ | | = 0.0 $1.22 + 0.62$ | | |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | | -0.03 | | |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | <i>e</i> Tconi | | | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | - 0 | | | 3.2 |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | $\equiv 0.0$ | | |
| $T_{\text{conj}_{\text{f}}}$ $\equiv 2459462.9$ $\equiv 2459462.9$ $\exists D_{\text{T}}$ $T_{\text{peri}_{\text{f}}}$ $\equiv 2459439.45$ $\equiv 2459439.45$ $\exists D_{\text{T}}$ e_f $\equiv 0.0$ $\equiv 0.0$ $\equiv 0.0$ radians K_f $4.22^{+0.68}_{-0.69}$ 4.23 m s ⁻¹ T_{T} | K_e | | | |
| $\begin{array}{llllllllllllllllllllllllllllllllllll$ | | | | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | JL |
| $ K_f = 4.22_{-0.69}^{+0.68} = 4.23 \text{ m s}^{-1} $ Other Parameters $ \gamma_j = 1.69 \pm 0.91 = 1.69 \text{ m s}^{-1} $ $ \dot{\gamma} = -0.0051 \pm 0.0024 = -0.0051 \text{ m s}^{-1} \text{ d}^{-1} $ $ \ddot{\gamma} = 0.0 = 0.0 \text{ m s}^{-1} \text{ d}^{-2} $ | | | | radian |
| Other Parameters γ_j 1.69 ± 0.91 1.69 m s-1 $\dot{\gamma}$ -0.0051 ± 0.0024 -0.0051 m s ⁻¹ d ⁻¹ $\ddot{\gamma}$ \equiv 0.0 \equiv 0.0 m s ⁻¹ d ⁻² | | 4 22+0.68 | | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | <i>,</i> | -0.09 | 4.23 | 111 5 |
| $\dot{\tilde{\gamma}}$ -0.0051 ± 0.0024 | | | 1.60 | ma 1 |
| $\ddot{\gamma} = 0.0031 \pm 0.0024$ $-0.0031 \text{ in s}^{-1} \text{ d}^{-2}$ $\ddot{\gamma} = 0.0 \qquad \equiv 0.0 \text{m s}^{-1} \text{ d}^{-2}$ $\sigma_{\rm j} = 3.82^{+0.37}_{-0.33} = 3.59 \text{m s}^{-1}$ | /ΊJ ❖ | | | m s-1 d-1 |
| $\sigma_{\rm j}$ = 0.0 = 0.0 H s d $\sigma_{\rm j}$ = 3.82 $^{+0.37}_{-0.33}$ = 3.59 H s $^{-1}$ | i Ÿ | | | $m s^{-1} d^{-2}$ |
| $0.02_{-0.33}$ 0.09 m s | | | | |
| | J | 0.02 - 0.33 | 5.59 | III S |

120000 links saved Reference epoch for $\gamma,\dot{\gamma},\ddot{\gamma}$: 2458989.783463

TABLE 3 DERIVED POSTERIORS

| Parameter | Credible Interval | Maximum Likelihood | Units |
|--------------|---|--------------------|-------------------|
| $M_b \sin i$ | $6.6^{+1.6}_{-1.5}$ | 6.4 | ${ m M}_{\oplus}$ |
| a_b | $0.0493^{+0.0022}_{-0.0024}$ | 0.051 | AU |
| $M_c \sin i$ | $9.8^{+1.9}_{-1.8}$ | 10.6 | ${ m M}_{\oplus}$ |
| a_c | $0.0608^{+0.0027}_{-0.003}$ | 0.0628 | AU |
| $M_d \sin i$ | $4.5^{+2.4}_{-2.2}$ | 4.6 | ${ m M}_{\oplus}$ |
| a_d | $0.1309^{+0.0058}_{-0.0064}$ | 0.1354 | AU |
| $M_e \sin i$ | $0.1309_{-0.0064}^{+0.0064}$ $12.4_{-3.2}^{+3.3}$ | 13.9 | ${ m M}_{\oplus}$ |
| a_e | $0.2101^{+0.0094}_{-0.01}$ | 0.2172 | AU |
| $M_f \sin i$ | $26.8_{-4.9}^{+5.3}$ | 29.1 | ${ m M}_{\oplus}$ |
| a_f | $0.384^{+0.017}_{-0.019}$ | 0.397 | AU |
| | | | |

TABLE 4 SUMMARY OF PRIORS

K constrained to be >0

Gaussian prior on P_b : $4.31 \pm 2e - 05$

Gaussian prior on Tconj_b: 2458686.5658 ± 0.001

Gaussian prior on P_c : $5.9 \pm 8e - 05$

Gaussian prior on $T\mathrm{conj_c}\colon\thinspace 2458683.4661 \pm 0.003$

Gaussian prior on P_d : $18.66 \pm 5e - 05$

Gaussian prior on Tconj_d: 2458688.9653 ± 0.009

Gaussian prior on P_e : 37.92 ± 0.0001

Gaussian prior on Tconj_e: 2457000.7134 ± 0.0089

Gaussian prior on P_f : 93.8 ± 0.0001

Gaussian prior on $T \text{conj}_{\text{f}} \colon 2459462.9 \pm 0.0089$

Bounded prior: $-20.0 < \sigma_{\rm j} < 20.0$

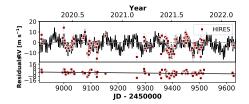
TABLE 5 FINAL CONVERGENCE CRITERION

| Criterion | Final Value |
|-------------|-------------|
| minAfactor | 102.659 |
| maxArchange | 0.016 |
| maxGR | 1.008 |
| minTz | 3514.476 |

TABLE 6
RADIAL VELOCITIES

| Time | RV | RV Unc. | Inst. |
|---------------|--------------|---------------------|--------|
| (JD) | $(m s^{-1})$ | $(m s^{-1})$ | 111001 |
| 2458917.06227 | 4.82 | 1.78 | i |
| 2458918.06580 | 9.02 | 1.66 | i |
| 2458919.05511 | 0.60 | 1.53 | j i |
| 2458995.87585 | 6.04 | 1.93 | j i |
| 2458999.89268 | 15.83 | 1.72 | j i |
| 2459002.92823 | 3.45 | 1.60 | j i |
| 2459003.89134 | 0.80 | 1.56 | j i |
| 2459006.88414 | -3.67 | 1.60 | J i |
| 2459013.87325 | -3.05 | 1.66 | J i |
| 2459016.87492 | -3.96 | 1.82 | j i |
| 2459024.86927 | -1.91 | 1.57 | J i |
| 2459027.83837 | -2.96 | 1.39 | j i |
| 2459030.89287 | 3.19 | 1.63 | J |
| 2459034.85573 | 6.25 | 1.59 | J |
| 2459034.33373 | 4.97 | 1.46 | J |
| 2459038.84046 | 0.42 | 1.57 | J |
| 2459069.00985 | 5.46 | $\frac{1.57}{2.56}$ | j |
| 2459009.00983 | 5.40 | 1.77 | j |
| 2459071.93004 | 7.48 | | j |
| 2459077.88344 | 11.61 | $1.75 \\ 1.67$ | j |
| | - | $\frac{1.07}{2.27}$ | j |
| 2459086.87479 | -8.95 | | j |
| 2459089.87543 | 0.78 | 1.61 | j |
| 2459090.80766 | 0.02 | 1.63 | j |
| 2459091.81037 | -10.19 | 1.67 | j |
| 2459092.80462 | -6.71 | 1.61 | j |
| 2459094.79032 | 3.15 | 1.80 | j |
| 2459097.87403 | -3.73 | 1.84 | j |
| 2459101.77339 | 0.80 | 1.61 | j |
| 2459114.75154 | -2.73 | 1.62 | j |
| 2459115.78545 | 0.73 | 1.56 | J |
| 2459117.75377 | -1.51 | 1.57 | j |
| 2459118.76969 | 2.02 | 1.58 | j |
| 2459119.76203 | -2.99 | 1.97 | j |
| 2459120.73793 | -0.06 | 1.71 | J |
| 2459121.72997 | -13.88 | 1.76 | j |
| 2459122.74503 | -7.78 | 1.58 | j |
| 2459123.73465 | 0.21 | 1.57 | j |
| 2459153.71066 | 8.07 | 1.68 | j |
| 2459269.13557 | -12.30 | 1.73 | J |
| 2459296.10098 | 6.81 | 1.57 | j |
| 2459297.04778 | 3.19 | 1.65 | j |
| 2459300.00609 | -4.14 | 1.97 | j |
| 2459314.07830 | -1.22 | 1.43 | j |
| 2459353.86001 | 6.32 | 1.69 | j |
| 2459354.94389 | 6.58 | 1.67 | j |
| 2459358.91097 | -9.48 | 1.70 | j |
| 2459361.94571 | 8.19 | 1.46 | j |
| 2459373.81907 | 6.75 | 1.70 | j |
| 2459377.07153 | -5.15 | 1.57 | |
| 2459377.83080 | 5.32 | 1.64 | j |
| | | | |

Note. — Only the first 50 of 99 RVs are displayed in this table. Use radvel table -t rv to save the full LATEX table as a separate file.



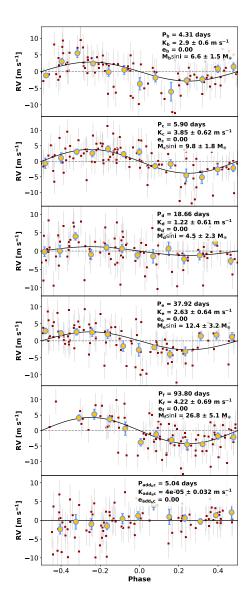


FIG. 1.— Best-fit 6-planet Keplerian orbital model for TOI-1246_add_bc. The maximum likelihood model is plotted while the orbital parameters listed in Table 2 are the median values of the posterior distributions. The thin blue line is the best fit 6-planet model. We add in quadrature the RV jitter term(s) listed in Table 2 with the measurement uncertainties for all RVs. b) Residuals to the best fit 6-planet model. c) RVs phase-folded to the ephemeris of planet b. The Keplerian orbital models for all other planets (if any) have been subtracted. The small point colors and symbols are the same as in panel a. Red circles (if present) are the same velocities binned in 0.08 units of orbital phase. The phase-folded model for planet b is shown as the blue line.

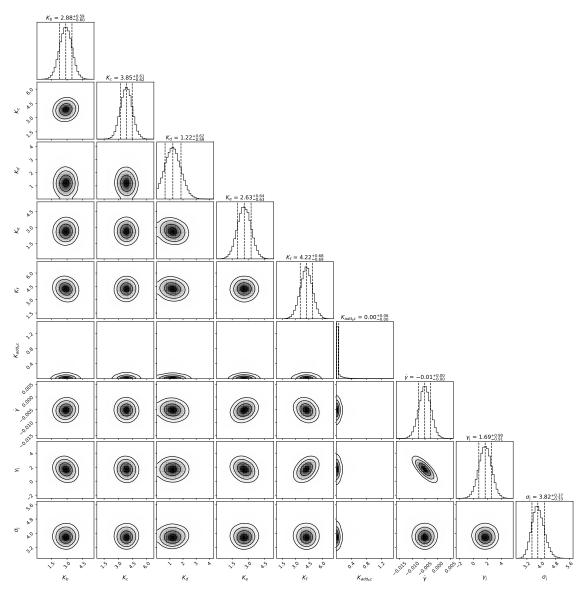


Fig. 2.— Posterior distributions for all free parameters.

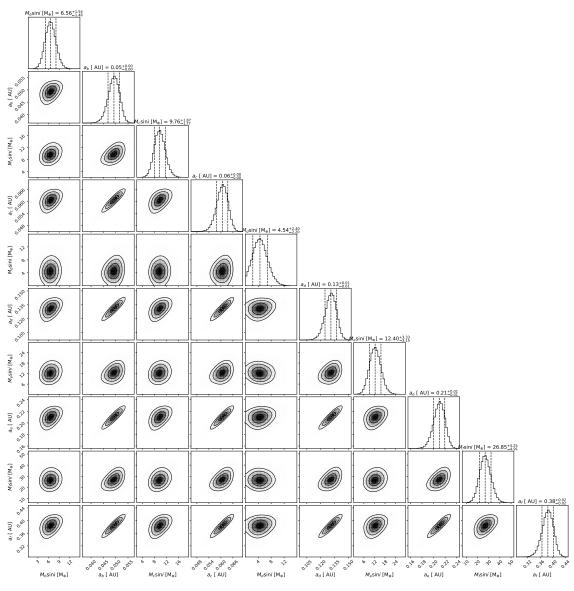


Fig. 3.— Posterior distributions for all derived parameters.