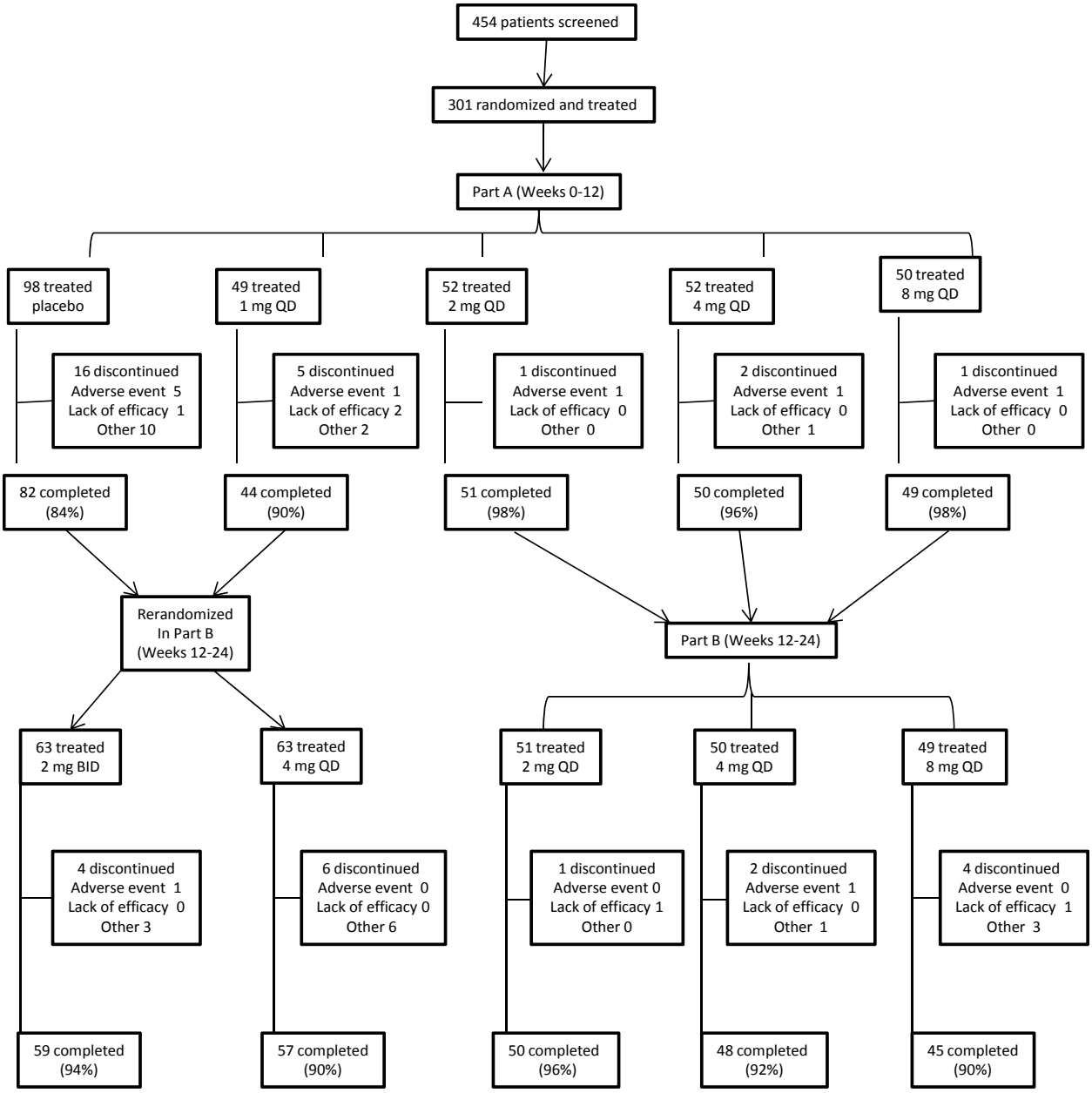

Figure S1. Patient disposition through 24 weeks.

Reasons for discontinuation include adverse event, lack of efficacy, investigator decision, protocol violation, entry criteria not met, and patient decision.

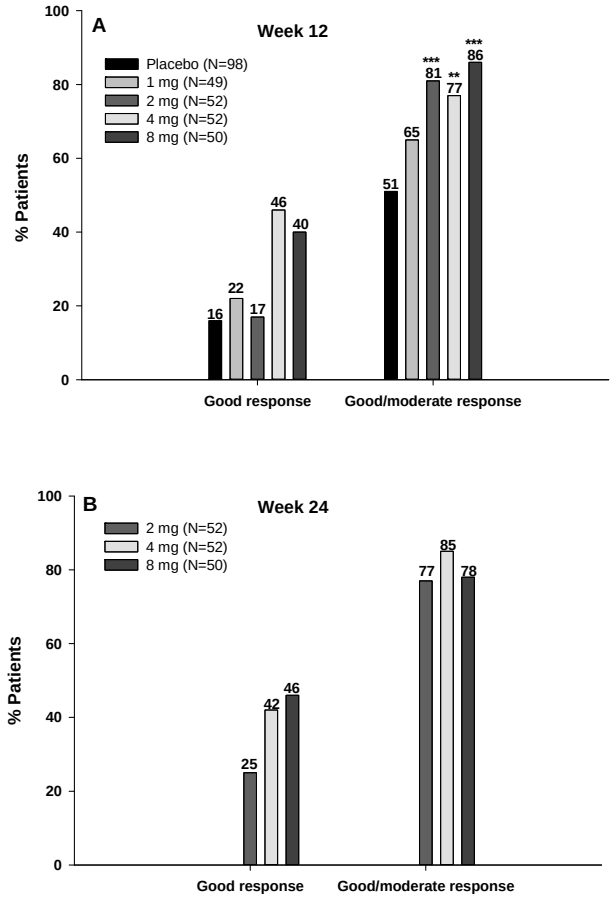

Figure S2. Assessment of EULAR28 response at 12 and 24 weeks. The percentage of patients who achieved a good or good/moderate EULAR28 response at 12 weeks (A) or 24 weeks (B). **p<0.01, ***p<0.001 vs placebo. Data from Weeks 12-24 for patients initially assigned to placebo or baricitinib 1-mg once-daily and then re-randomized at 12 weeks are not shown.

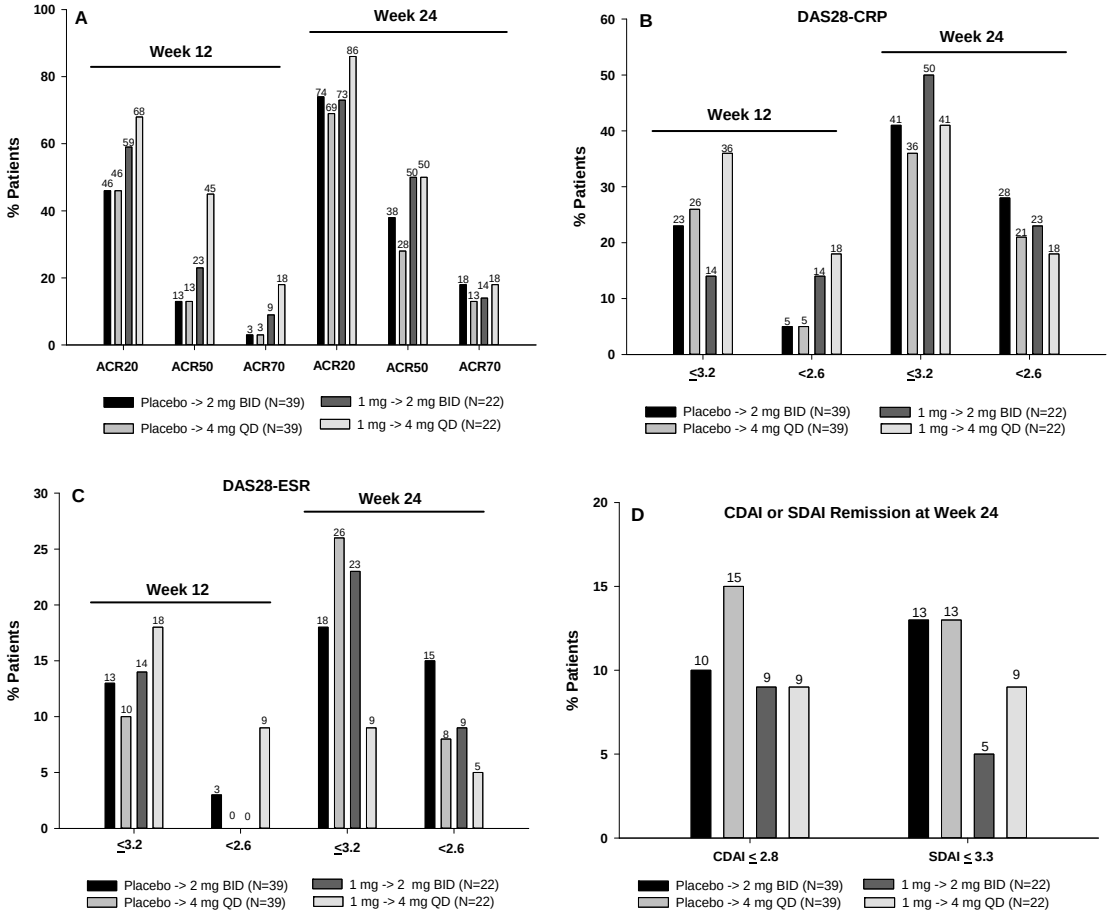

Figure S3. (A) The percentage of patients in the re-randomized treatment groups achieving an ACR20, ACR50, or ACR70 at Week 12 and Week 24. B and C, Assessments of disease activity by DAS28 in re-randomized patients at Weeks 12 and 24. The percentage of patients with DAS28(CRP) <2.6 or ≤3.2 (B) or DAS28(ESR) <2.6 or ≤3.2 (C). (D) The percentage of re-randomized patients achieving remission as measured by CDAI ≤2.8 or SDAI ≤3.3 at Week 24.

Table S1. Summary of improvement in ACR core components and morning joint stiffness at Week 24 in patients re-randomized at Week 12[†]

	2 mg Baricitinib			4 mg Baricitinib		
	Placebo → 2 mg BID (N=39)	1 mg → 2 mg BID (N=22)	Combined 2 mg BID (N=61)	Placebo → 4 mg QD (N=39)	1 mg → 4 mg QD (N=22)	Combined 4 mg QD (N=61)
Tender joints (68 count)						
Mean % improvement[‡]	64	53	60	57	71	62
Mean change	-3.4	-2.0	-2.9	-6.5	-4.8	-5.9
Swollen joints (68 count)						
Mean % improvement[‡]	69	53	63	59	63	61
Mean change	-3.2	-0.2	-2.1	-1.8	-0.6	-1.4
Pain (0-100)	-14.2	-4.9	-10.9	-10.4	-4.3	-8.2
PtGA (0-100)	-12.5	-7.6	-10.7	-9.4	-1.5	-6.6
PhGA (0-100)	-12.5	-5.5	-10.0	-9.7	-8.0	-9.1
HAQ-DI (0-3)	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1
MCID for HAQ-DI[¶]	33	50	39	31	23	28
hsCRP (mg/L)[§]	-2.6	-0.2	-0.6	-1.3	0.2	-1.1
ESR (mm/h)[§]	-7.0	5.0	-2.0	-2.0	5.0	0

Morning joint stiffness						
Median duration (minutes)	15.0	15.0	15.0	15.0	12.5	15.0
Mean change	-35.8	8.0	-20.0	-24.3	-6.4	-17.8

BID, twice-daily; ESR, erythrocyte sedimentation rate; HAQ-DI, Health Assessment Questionnaire—Disability Index; hsCRP, high-sensitivity C-reactive protein; MCID, minimal clinically important difference (≥ 0.22); min, minutes; PhGA, physician's global assessment of disease activity; PtGA, patient's global assessment of disease activity; QD, once-daily

Data reported as mean change from baseline unless otherwise noted and last observation carried forward. No significant differences in baseline (Week 12) measures between treatment groups were observed.

[†]Patients originally assigned to placebo or baricitinib 1-mg QD at study entry and re-randomized to receive baricitinib 2 mg BID or 4 mg QD for an additional 12 weeks.

[‡]Mean percent improvement from baseline.

[§]Median change from baseline.

[¶]Percent of patients achieving MCID (≥0.22) for HAQ-DI.

Table S2. Serious Adverse Events through 24 Weeks*

	Weeks 0-12				
		Baricitinib			
MedDRA System Organ Class	Placebo QD (N=98)	1 mg QD (N=49)	2 mg QD (N=52)	4 mg QD (N=52)	8 mg QD (N=50)
Blood and lymphatic system disorders	Anemia				Pancytopenia
Infections and infestations			Bronchitis Pneumonia		
Injury, poisoning, and procedural complications			Laceration		
Metabolism and nutrition disorders	Hyperglycemia				
Renal and urinary disorders	Hematuria				
Respiratory, thoracic, and mediastinal disorders			Asthma		

	Weeks 12-24				
	Baricitinib				
MedDRA System Organ Class	Combined 2 mg BID† (N=61)	Combined 4 mg QD† (N=61)	2 mg QD (N=52)	4 mg QD (N=52)	8 mg QD (N=50)
Blood and lymphatic system disorders					Anemia
Gastrointestinal disorders					Gastritis
General disorders and administration site conditions	Pyrexia				
Hepatobiliary disorders	Cholecystitis				
Infections and infestations					Bacterial pneumonia
Renal and urinary disorders					Renal failure

*Events are listed according to the system organ classes and "preferred terms" in the Medical Dictionary for Regulatory Activities (MedDRA) version 14.1.

†Patients originally assigned to placebo or baricitinib1-mg QD at study entry and re-randomized to receive baricitinib 2 mg BID or 4 mg QD for an additional 12 weeks.

Table S3. Summary of laboratory data at Week 24 for patients re-randomized at Week 12[†]

	2 mg Baricitinib			4 mg Baricitinib		
	Placebo → 2 mg BID (N=39)	1 mg → 2 mg BID (N=22)	Combined 2 mg BID (N=61)	Placebo → 4 mg QD (N=39)	1 mg → 4 mg QD (N=22)	Combined 4 mg QD (N=61)
Neutrophil count[*],	-1.21	-0.13	-0.82	-0.48	-0.36	-0.44
10^3 cells/mm^3	±2.05	±1.37	±1.90	±1.48	±1.87	±1.62
Lymphocyte count,	0.43	0.14	0.33	0.10	0.01	0.07
10^3 cells/mm^3	±0.50	±0.49	±0.51	±0.56	±0.69	±0.61
Platelet count,	307.8	308.0	307.9	289.9	300.5	293.8
10^3 cells/mm^3	±81.0	±67.4	±75.6	±78.7	±74.0	±76.5
Hemoglobin, g/dL	-0.21	-0.17	-0.19	-0.20	-0.63	-0.36
	±0.64	±0.53	±0.60	±0.72	±1.38	±1.02
ALT, IU/L	-3.1	0.0	-2.0	0.4	0.0	0.3
	±26.8	± 7.2	±21.9	±13.7	±15.6	±14.3
HDL, mg/dL	7.6	3.3	6.1	2.4	2.2	2.3
	±8.3	±12.3	±10.0	±10.7	±11.3	±10.8
LDL, mg/dL	7.9	18.1	11.3	10.1	11.9	10.7
	±22.9	±29.9	±25.6	±22.7	±33.0	±26.6
Creatinine, mg/dL	0.04	0.04	0.04	0.05	0.02	0.04
	±0.08	±0.08	±0.08	±0.11	±0.08	±0.10
Creatine	67	26	52	-20	7	-11

phosphokinase, U/L	±168	±40	±138	±368	±35	±295

ALT, alanine aminotransferase; BID, twice-daily; HDL, high-density lipoprotein; LDL, low-density lipoprotein; QD, once-daily

*Data reported as mean values±SD.

† Patients originally assigned to placebo or baricitinib 1-mg QD at study entry and re-randomized to receive baricitinib 2 mg BID or 4 mg QD for an additional 12 weeks.

Table S4. Summary of Laboratory Abnormalities of Special Interest through Week 24 in patients re-randomized at Week 12[†]

	2 mg Baricitinib			4 mg Baricitinib		
	Placebo → 2 mg BID (N=39)	1 mg → 2 mg BID (N=22)	Combined 2 mg BID (N=61)	Placebo → 4 mg QD (N=39)	1 mg → 4 mg QD (N=22)	Combined 4 mg QD (N=61)
Decreased neutrophils, n (%)						
Grade 1: ≥1,500 cells/mm^3 - <LLN[‡]	5 (13)	1 (5)	6 (10)	4 (10)	2 (9)	6 (10)
Grade 2: ≥1,000 - <1,500 cells/mm^3	0	3 (14)	3 (5)	2 (5)	1 (5)	3 (5)
Decreased lymphocytes, n (%)						
Grade 1: ≥800 cells/mm^3 - <LLN	0	0	0	2 (5)	4 (18)	6 (10)
Grade 2: ≥500 -<800 cells/mm^3	2 (5)	1 (5)	3 (5)	1 (3)	0	1 (2)
Grade 3: ≥200 - <500 cells/mm^3	1 (3)	0	1 (2)	0	0	0
Decreased hemoglobin, n (%)						
Grade 1: ≥10.0 g/dL - <LLN	11 (28)	8 (36)	19 (31)	12 (31)	11 (50)	23 (38)
Grade 2: ≥8.0 - <10.0 g/dL	4 (10)	1 (5)	5 (8)	1 (3)	1 (5)	2 (3)
Elevated ALT, n (%)						
Grade 1: >ULN and	11 (28)	3 (14)	14 (23)	9 (23)	4 (18)	13 (21)

≤2.5x ULN Grade 2: >2.5x ULN and ≤5x ULN	0	0	0	1 (3)	1 (5)	2 (3)

ALT, alanine aminotransferase; BID, twice-daily; HDL, high-density lipoprotein; LDL, low-density lipoprotein; LLN, lower limit of normal; N, number of patients randomized and treated; n, number of patients with laboratory abnormality; QD, once-daily; ULN, upper limit of normal

[†]Patients originally assigned to placebo or baricitinib 1-mg QD at study entry and re-randomized to receive baricitinib 2 mg BID or 4 mg QD for an additional 12 weeks.

[‡]Laboratory grades defined using Common Terminology Criteria for Adverse Events Version 4.0. Grades are based on the worst single value through the time period.

No patients in the re-randomized groups experienced an incidence of protocol-defined thrombocytosis (platelet count >600,000 cells/μL) during Weeks 12-24.