entry: %xmx = alloca i32**, align 8%mmx = alloca i32**, align 8 %imx = alloca i32**, align 8 %dmx = alloca i32**, align 8 %0 = bitcast i32*** %xmx to i8* call void @llvm.lifetime.start.p0i8(i64 8, i8* nonnull %0) #8 %1 = bitcast i32*** %mmx to i8* call void @llvm.lifetime.start.p0i8(i64 8, i8* nonnull %1) #8 %2 = bitcast i32*** %imx to i8*call void @llvm.lifetime.start.p0i8(i64 8, i8* nonnull %2) #8 %3 = bitcast i32*** %dmx to i8*call void @llvm.lifetime.start.p0i8(i64 8, i8* nonnull %3) #8 %M1 = getelementptr inbounds %struct.plan7 s, %struct.plan7 s* %hmm, i64 0, ... i32 20 %4 = load i32, i32* %M1, align 8, !tbaa !3 call void @ResizePlan7Matrix(%struct.dpmatrix_s* noundef %mx, i32 noundef ... %L, i32 noundef %4, i32*** noundef nonnull %xmx, i32*** noundef nonnull %mmx, ... i32*** noundef nonnull %imx, i32*** noundef nonnull %dmx) %5 = load i32**, i32*** %xmx, align 8, !tbaa !10 %6 = load i32*, i32** %5, align 8, !tbaa !10 %arrayidx2 = getelementptr inbounds i32, i32* %6, i64 4 store i32 0, i32* %arrayidx2, align 4, !tbaa !11 %arrayidx4 = getelementptr inbounds %struct.plan7 s, %struct.plan7 s* %hmm, ... i64 0, i32 33, i64 0, i64 0 %7 = load i32, i32* %arrayidx4, align 8, !tbaa !11 store i32 %7, i32* %6, align 4, !tbaa !11 %arrayidx8 = getelementptr inbounds i32, i32* %6, i64 3 store i32 -987654321, i32* %arrayidx8, align 4, !tbaa !11 %arrayidx10 = getelementptr inbounds i32, i32* %6, i64 2 store i32 -987654321, i32* %arrayidx10, align 4, !tbaa !11 %arrayidx12 = getelementptr inbounds i32, i32* %6, i64 1 store i32 -987654321, i32* %arrayidx12, align 4, !tbaa !11 %8 = load i32, i32* %M1, align 8, !tbaa !3 %cmp.not543 = icmp slt i32 %8, 0 br i1 %cmp.not543, label %for.end, label %for.body.lr.ph F for.body.lr.ph: %9 = load i32**, i32*** %dmx, align 8, !tbaa !10 %10 = load i32*, i32** %9, align 8, !tbaa !10 %11 = load i32**, i32*** %imx, align 8, !tbaa !10 %12 = load i32*, i32** %11, align 8, !tbaa !10 %13 = load i32**, i32*** %mmx, align 8, !tbaa !10 %14 = load i32*, i32** %13, align 8, !tbaa !10 br label %for.body for.body: %indvars.iv = phi i64 [0, %for.body.lr.ph], [%indvars.iv.next, %for.body] %arrayidx15 = getelementptr inbounds i32, i32* %10, i64 %indvars.iv store i32 -987654321, i32* %arrayidx15, align 4, !tbaa !11 %arrayidx18 = getelementptr inbounds i32, i32* %12, i64 %indvars.iv store i32 -987654321, i32* %arrayidx18, align 4, !tbaa !11 %arrayidx21 = getelementptr inbounds i32, i32* %14, i64 %indvars.iv store i32 -987654321, i32* %arrayidx21, align 4, !tbaa !11 %indvars.iv.next = add nuw nsw i64 %indvars.iv, 1 %15 = load i32, i32* %M1, align 8, !tbaa !3 %16 = sext i 32 % 15 to i 64%cmp.not.not = icmp slt i64 %indvars.iv, %16 br i1 %cmp.not.not, label %for.body, label %for.end, !llvm.loop !12 for.end: %.lcssa = phi i32 [%8, %entry], [%15, %for.body] %tsc = getelementptr inbounds %struct.plan7 s, %struct.plan7 s* %hmm, i64 0, ... i32 30 %17 = load i32**, i32*** %tsc, align 8, !tbaa !14 %18 = load i32*, i32** %17, align 8, !tbaa !10 %arrayidx25 = getelementptr inbounds i32*, i32** %17, i64 3 %19 = load i32*, i32** %arrayidx25, align 8, !tbaa !10 %arrayidx27 = getelementptr inbounds i32*, i32** %17, i64 5 %20 = load i32*, i32** %arrayidx27, align 8, !tbaa !10 %arrayidx29 = getelementptr inbounds i32*, i32** %17, i64 2 %21 = load i32*, i32** %arrayidx29, align 8, !tbaa !10 %arrayidx31 = getelementptr inbounds i32*, i32** %17, i64 6 %22 = load i32*, i32** %arrayidx31, align 8, !tbaa !10 %arrayidx33 = getelementptr inbounds i32*, i32** %17, i64 1 %23 = load i32*, i32** %arrayidx33, align 8, !tbaa !10 %arrayidx35 = getelementptr inbounds i32*, i32** %17, i64 4 %24 = load i32*, i32** %arrayidx35, align 8, !tbaa !10 %bsc = getelementptr inbounds %struct.plan7 s, %struct.plan7 s* %hmm, i64 0, ... i32 34 %25 = load i32*, i32** %bsc, align 8, !tbaa !15 %cmp37.not551 = icmp slt i32 %L, 1 br i1 %cmp37.not551, label %for.end351, label %for.body38.lr.ph for.body38.lr.ph: %msc = getelementptr inbounds %struct.plan7 s, %struct.plan7 s* %hmm, i64 0, %isc = getelementptr inbounds %struct.plan7 s, %struct.plan7 s* %hmm, i64 0, ... i32 32 %cmp70.not545 = icmp slt i32 %.lcssa, 1%arrayidx214 = getelementptr inbounds %struct.plan7 s, %struct.plan7 s* ... %hmm, i64 0, i32 33, i64 0, i64 1 %esc = getelementptr inbounds %struct.plan7 s, %struct.plan7 s* %hmm, i64 0, %arrayidx254 = getelementptr inbounds %struct.plan7 s, %struct.plan7 s* ... %hmm, i64 0, i32 33, i64 3, i64 1 %arrayidx268 = getelementptr inbounds %struct.plan7_s, %struct.plan7_s* ... %hmm, i64 0, i32 33, i64 1, i64 1 %arrayidx302 = getelementptr inbounds %struct.plan7_s, %struct.plan7_s* ... %hmm, i64 0, i32 33, i64 3, i64 0 %arrayidx323 = getelementptr inbounds %struct.plan7_s, %struct.plan7_s* ... %hmm, i64 0, i32 33, i64 2, i64 1 %arrayidx337 = getelementptr inbounds %struct.plan7_s, %struct.plan7_s* ... %hmm, i64 0, i32 33, i64 1, i64 0 %26 = sext i32 %.lcssa to i64 %27 = add i32 %.lcssa, 1 %28 = add nuw i32 %L, 1 %wide.trip.count571 = zext i32 %28 to i64 %wide.trip.count = zext i32 %27 to i64 br label %for.body38 for.bodv38: %29 = phi i32* [%6, %for.body38.lr.ph], [%.pre, ... %if.end313.for.body38 crit edge] %30 = phi i32** [%5, %for.body38.lr.ph], [%136, ... %if.end313.for.body38 crit edge] %indvars.iv567 = phi i6 $\overline{4}$ [1, %for.body38.lr.ph], [%indvars.iv.next568, ... %if.end313.for.body38_crit_edge] %31 = load i32**, i32*** %mmx, align 8, !tbaa !10 %arrayidx40 = getelementptr inbounds i32*, i32** %31, i64 %indvars.iv567 %32 = load i32*, i32** %arrayidx40, align 8, !tbaa !10 %33 = load i32**, i32*** %dmx, align 8, !tbaa !10 %arrayidx42 = getelementptr inbounds i32*, i32** %33, i64 %indvars.iv567 %34 = load i32*, i32** %arrayidx42, align 8, !tbaa !10 %35 = load i32**, i32*** %imx, align 8, !tbaa !10 %arrayidx44 = getelementptr inbounds i32*, i32** %35, i64 %indvars.iv567 %36 = load i32*, i32** %arrayidx44, align 8, !tbaa !10 %37 = add nsw i64 %indvars.iv567, -1 %arrayidx46 = getelementptr inbounds i32*, i32** %31, i64 %37 %38 = load i32*, i32** %arrayidx46, align 8, !tbaa !10 %arrayidx49 = getelementptr inbounds i32*, i32** %33, i64 %37 %39 = load i32*, i32** %arrayidx49, align 8, !tbaa !10 %arrayidx52 = getelementptr inbounds i32*, i32** %35, i64 %37 %40 = load i32*, i32** %arrayidx52, align 8, !tbaa !10 %41 = load i32, i32* %29, align 4, !tbaa !11 %42 = load i32**, i32*** %msc, align 8, !tbaa !16 %arrayidx58 = getelementptr inbounds i8, i8* %dsq, i64 %indvars.iv567 %43 = load i8, i8* %arrayidx58, align 1, !tbaa !17 %idxprom59 = sext i8 %43 to i64 %arrayidx60 = getelementptr inbounds i32*, i32** %42, i64 %idxprom59 %44 = load i32*, i32** %arrayidx60, align 8, !tbaa !10 %45 = load i32**, i32*** %isc, align 8, !tbaa !18 %arrayidx65 = getelementptr inbounds i32*, i32** %45, i64 %idxprom59 %46 = load i32*, i32** %arrayidx65, align 8, !tbaa !10 store i32 -987654321, i32* %32, align 4, !tbaa !11 store i32 -987654321, i32* %34, align 4, !tbaa !11 store i32 -987654321, i32* %36, align 4, !tbaa !11 br i1 %cmp70.not545, label %for.end204, label %for.body72 Τ for.body72: %indvars.iv558 = phi i64 [%indvars.iv.next559, %for.inc202], [1, ... %for.body38 1 %47 = add nsw i64 %indvars.iv558, -1 %arrayidx75 = getelementptr inbounds i32, i32* %38, i64 %47 %48 = load i32, i32* %arrayidx75, align 4, !tbaa !11 %arrayidx78 = getelementptr inbounds i32, i32* %18, i64 %47 %49 = load i32, i32* %arrayidx78, align 4, !tbaa !11 %add = add nsw i32 %49, %48 %arrayidx80 = getelementptr inbounds i32, i32* %32, i64 %indvars.iv558 store i32 %add, i32* %arrayidx80, align 4, !tbaa !11 call void asm sideeffect "nop", "~{dirflag},~{fpsr},~{flags}"() #8, !srcloc ... !19 %arrayidx83 = getelementptr inbounds i32, i32* %40, i64 %47 %50 = load i32, i32* %arrayidx83, align 4, !tbaa !11 %arrayidx86 = getelementptr inbounds i32, i32* %19, i64 %47 %51 = load i32, i32* %arrayidx86, align 4, !tbaa !11 %add87 = add nsw i32 %51, %50 %52 = load i32, i32* %arrayidx80, align 4, !tbaa !11 %cmp90 = icmp sgt i32 %add87, %52 br i1 %cmp90, label %if.then, label %if.end F if.then: store i32 %add87, i32* %arrayidx80, align 4, !tbaa !11 br label %if.end if.end: call void asm sideeffect "nop", "~{dirflag},~{fpsr},~{flags}"() #8, !srcloc ... !20 %arrayidx96 = getelementptr inbounds i32, i32* %39, i64 %47 %53 = load i32, i32* %arrayidx96, align 4, !tbaa !11 %arrayidx99 = getelementptr inbounds i32, i32* %20, i64 %47 %54 = load i32, i32* %arrayidx99, align 4, !tbaa !11 %add100 = add nsw i32 %54, %53 %55 = load i32, i32* %arrayidx80, align 4, !tbaa !11 %cmp103 = icmp sqt i32 %add100, %55 br i1 %cmp103, label %if.then105, label %if.end108 F if.then105: store i32 %add100, i32* %arrayidx80, align 4, !tbaa !11 br label %if.end108 if.end108: call void asm sideeffect "nop", "~{dirflag},~{fpsr},~{flags}"() #8, !srcloc %arrayidx110 = getelementptr inbounds i32, i32* %25, i64 %indvars.iv558 %56 = load i32, i32* %arrayidx110, align 4, !tbaa !11 %add111 = add nsw i32 %56, %41 %57 = load i32, i32* %arrayidx80, align 4, !tbaa !11 %cmp114 = icmp sgt i32 %add111, %57 br i1 %cmp114, label %if.then116, label %if.end119 F if.then116: store i32 %add111, i32* %arrayidx80, align 4, !tbaa !11 br label %if.end119 if.end119: call void asm sideeffect "nop", "~{dirflag},~{fpsr},~{flags}"() #8, !srcloc %arrayidx121 = getelementptr inbounds i32, i32* %44, i64 %indvars.iv558 %58 = load i32, i32* %arrayidx121, align 4, !tbaa !11 $\%59 = \text{load i} 32, i 32* \% \text{arrayid} \times 80, \text{align } 4, ! \text{tbaa !} 11$ %add124 = add nsw i32 % 59, % 58 $\%60 = icmp \ sgt \ i32 \ \%add124, -987654321$ %spec.select = select i1 %60, i32 %add124, i32 -987654321 store i32 %spec.select, i32* %arrayidx80, align 4, !tbaa !11 %arrayidx135 = getelementptr inbounds i32, i32* %34, i64 %47 %61 = load i32, i32* %arrayidx135, align 4, !tbaa !11 %arrayidx138 = getelementptr inbounds i32, i32* %22, i64 %47 %62 = load i32, i32* %arrayidx138, align 4, !tbaa !11 %add139 = add nsw i32 %62, %61 %arrayidx141 = getelementptr inbounds i32, i32* %34, i64 %indvars.iv558 store i32 %add139, i32* %arrayidx141, align 4, !tbaa !11 %arrayidx144 = getelementptr inbounds i32, i32* %32, i64 %47 %63 = load i32, i32* %arrayidx144, align 4, !tbaa !11 %arrayidx147 = getelementptr inbounds i32, i32* %21, i64 %47 %64 = load i32, i32* %arrayidx147, align 4, !tbaa !11 %add148 = add nsw i32 %64, %63 %cmp151 = icmp sqt i32 %add148, %add139 %spec.store.select538 = select i1 %cmp151, i32 %add148, i32 %add139 %65 = icmp sqt i32 %spec.store.select538, -987654321%spec.store.select540 = select i1 %65, i32 %spec.store.select538, i32 .. -987654321 store i32 %spec.store.select540, i32* %arrayidx141, align 4 call void asm sideeffect "xchg %r13, %r13", "~{dirflag},~{fpsr},~{flags}"() .. #8, !srcloc !23 %cmp165 = icmp slt i64 %indvars.iv558, %26 br i1 %cmp165, label %if.then167, label %for.inc202 F if.then167: %arrayidx169 = getelementptr inbounds i32, i32* %38, i64 %indvars.iv558 %66 = load i32, i32* %arrayidx169, align 4, !tbaa !11 %arrayidx171 = getelementptr inbounds i32, i32* %23, i64 %indvars.iv558 %67 = load i32, i32* %arrayidx171, align 4, !tbaa !11 %add172 = add nsw i32 %67, %66 %arrayidx174 = getelementptr inbounds i32, i32* %36, i64 %indvars.iv558 store i32 %add172, i32* %arrayidx174, align 4, !tbaa !11 %arrayidx176 = getelementptr inbounds i32, i32* %40, i64 %indvars.iv558 %68 = load i32, i32* %arrayidx176, align 4, !tbaa !11 %arrayidx178 = getelementptr inbounds i32, i32* %24, i64 %indvars.iv558 %69 = load i32, i32* %arrayidx178, align 4, !tbaa !11 %add179 = add nsw i32 %69, %68 %cmp182 = icmp sgt i32 %add179, %add172 %spec.store.select = select i1 %cmp182, i32 %add179, i32 %add172 store i32 %spec.store.select, i32* %arrayidx174, align 4 %arrayidx189 = getelementptr inbounds i32, i32* %46, i64 %indvars.iv558 %70 = load i32, i32* %arrayidx189, align 4, !tbaa !11 %add192 = add nsw i32 %spec.store.select, %70 %71 = icmp sgt i32 %add192, -987654321 %spec.store.select539 = select i1 %71, i32 %add192, i32 -987654321 store i32 %spec.store.select539, i32* %arrayidx174, align 4 br label %for.inc202 for.inc202: %indvars.iv.next559 = add nuw nsw i64 %indvars.iv558, 1 %exitcond.not = icmp eq i64 %indvars.iv.next559, %wide.trip.count br i1 %exitcond.not, label %for.end204.loopexit, label %for.body72, ... !llvm.loop !24 F for.end204.loopexit: %.pre573 = load i32**, i32*** %xmx, align 8, !tbaa !10 %arrayidx210.phi.trans.insert = getelementptr inbounds i32*, i32** %.pre573, ... i64 %37 %.pre574 = load i32*, i32** %arrayidx210.phi.trans.insert, align 8, !tbaa !10 %.pre575 = load i32**, i32*** %mmx, align 8, !tbaa !10 br label %for.end204 for.end204: %72 = phi i32** [%.pre575, %for.end204.loopexit], [%31, %for.body38] %73 = phi i32* [%.pre574, %for.end204.loopexit], [%29, %for.body38] %74 = phi i32** [%.pre573, %for.end204.loopexit], [%30, %for.body38] %arrayidx206 = getelementptr inbounds i32*, i32** %74, i64 %indvars.iv567 %75 = load i32*, i32** %arrayidx206, align 8, !tbaa !10 %arrayidx207 = getelementptr inbounds i32, i32* %75, i64 4 store i32 -987654321, i32* %arrayidx207, align 4, !tbaa !11 %arrayidx211 = getelementptr inbounds i32, i32* %73, i64 4 %76 = load i32, i32* %arrayidx211, align 4, !tbaa !11 %77 = load i32, i32* %arrayidx214, align 4, !tbaa !11 %add215 = add nsw i32 %77, %76 %cmp216 = icmp sgt i32 %add215, -987654321 %spec.store.select553 = select i1 %cmp216, i32 %add215, i32 -987654321 store i32 %spec.store.select553, i32* %arrayidx207, align 4 %arrayidx224 = getelementptr inbounds i32*, i32** %72, i64 %indvars.iv567 %78 = load i32*, i32** %arrayidx224, align 8, !tbaa !10 %79 = load i32*, i32** %esc, align 8, !tbaa !25 %80 = load i32, i32* %M1, align 8, !tbaa !3 %cmp227.not547 = icmp slt i32 %80, 1 br i1 %cmp227.not547, label %for.end241, label %for.body229.preheader for.body229.preheader: %81 = add nuw i32 %80, 1 %wide.trip.count565 = zext i32 %81 to i64%82 = add nsw i64 %wide.trip.count565, -1 %min.iters.check = icmp ult i64 %82, 8 br i1 %min.iters.check, label %for.body229.preheader582, label %vector.ph vector.ph: %n.vec = and i64 %82, -8%ind.end = or i64 %n.vec, 1 %83 = add nsw i64 %n.vec, -8%84 = lshr exact i64 %83, 3%85 = add nuw nsw i64 %84, 1 %xtraiter = and i64 %85, 1 $\%86 = icmp \ eq \ i64 \ \%83, \ 0$ br i1 %86, label %middle.block.unr-lcssa, label %vector.ph.new vector.ph.new: %unroll iter = and i64 %85, 4611686018427387902 br label wector.body vector.body: %index = phi i64 [0, %vector.ph.new], [%index.next.1, %vector.body] %vec.phi = phi $<4 \times i32>$ [<i32-987654321, i32-987654321, i32-987654321, ... i32 -987654321>, %vector.ph.new], [%113, %vector.body] %vec.phi578 = phi $<4 \times i32>$ [<i32 -987654321, i32 -987654321, i32... -987654321, i32 -987654321>, %vector.ph.new], [%114, %vector.body] %niter = phi i64 [0, %vector.ph.new], [%niter.next.1, %vector.body] %offset.idx = or i64 %index, 1 %87 = getelementptr inbounds i32, i32* %78, i64 %offset.idx %88 = bitcast i32*%87 to <4 x i32>*%wide.load = load <4 x i32>, <4 x i32>* %88, align 4, !tbaa !11 %89 = getelementptr inbounds i 32, i 32* %87, i 64 4%90 = bitcast i32*%89 to < 4 x i32>*%wide.load579 = load <4 x i32>, <4 x i32>* %90, align 4, !tbaa !11 %91 = getelementptr inbounds i32, i32* %79, i64 %offset.idx %92 = bitcast i32*%91 to <4 x i32>*%wide.load580 = load <4 x i32>, <4 x i32>* %92, align 4, !tbaa !11 %93 = getelementptr inbounds i32, i32* %91, i64 4 %94 = bitcast i32*%93 to <4 x i32>*%wide.load581 = load <4 x i32>, <4 x i32>* %94, align 4, !tbaa !11 $\%95 = \text{add nsw} < 4 \times i32 > \% \text{wide.load580}, \% \text{wide.load}$ $\%96 = \text{add nsw} < 4 \times i32 > \% \text{wide.load581}, \% \text{wide.load579}$ $\%97 = icmp \, sgt < 4 \, x \, i32 > \%95, \, \%vec.phi$ %98 = icmp sgt < 4 x i 32 > %96, % vec.phi 578 $\%99 = \text{select} < 4 \times i1 > \%97, < 4 \times i32 > \%95, < 4 \times i32 > \%\text{vec.phi}$ $%100 = \text{select} < 4 \times i1 > %98, < 4 \times i32 > %96, < 4 \times i32 > %vec.phi578$ %offset.idx.1 = or i64 %index, 9 %101 = getelementptr inbounds i32, i32* %78, i64 %offset.idx.1 %102 = bitcast i32* %101 to <4 x i32>*%wide.load.1 = load <4 x i32>, <4 x i32>* %102, align 4, !tbaa !11 %103 = getelementptr inbounds i32, i32* %101, i64 4 %104 = bitcast i32* %103 to <4 x i32>*%wide.load579.1 = load $<4 \times i32>$, $<4 \times i32>* %104$, align 4, !tbaa !11 %105 = getelementptr inbounds i32, i32* %79, i64 %offset.idx.1 %106 = bitcast i32*%105 to < 4 x i32>*%wide.load580.1 = load $<4 \times i32>$, $<4 \times i32>* %106$, align 4, !tbaa !11 %107 = getelementptr inbounds i32, i32* %105, i64 4 %108 = bitcast i32* %107 to <4 x i32>*%wide.load581.1 = load <4 x i32>, <4 x i32>* %108, align 4, !tbaa !11 %109 = add nsw < 4 x i32 > %wide.load580.1, %wide.load.1%110 = add nsw < 4 x i32 > %wide.load581.1, %wide.load579.1 $%111 = icmp \, sgt < 4 \, x \, i32 > %109, %99$ $%112 = icmp \, sgt < 4 \, x \, i32 > \%110, \%100$ %113 = select $<4 \times i1> %111, <math><4 \times i32> %109, <4 \times i32> %99$ %114 = select <4 x i1> %112, <4 x i32> %110, <4 x i32> %100 %index.next.1 = add nuw i64 %index, 16 %niter.next.1 = add i64 %niter, 2 %niter.ncmp.1 = icmp eq i64 %niter.next.1, %unroll iter br i1 %niter.ncmp.1, label %middle.block.unr-lcssa, label %vector.body, ...!llvm.loop!26 middle.block.unr-lcssa: %.lcssa584.ph = phi < 4 x i32 > [undef, %vector.ph], [%113, %vector.body]%.lcssa583.ph = phi <4 x i32> [undef, %vector.ph], [%114, %vector.body] %index.unr = phi i64 [0, %vector.ph], [%index.next.1, %vector.body] %vec.phi.unr = phi $<4 \times i32>$ [<i32-987654321, i32-987654321, i32... -987654321, i32 -987654321>, %vector.ph], [%113, %vector.body] %vec.phi578.unr = phi $<4 \times i32>$ [<i32-987654321, i32-987654321, i32... -987654321, i32 -987654321>, %vector.ph], [%114, %vector.body] %lcmp.mod.not = icmp eq i64 %xtraiter, 0 br i1 %lcmp.mod.not, label %middle.block, label %vector.bodv.epil vector.body.epil: %offset.idx.epil = or i64 %index.unr, 1 %115 = getelementptr inbounds i32, i32* %78, i64 %offset.idx.epil %116 = bitcast i32*%115 to < 4 x i32>*%wide.load.epil = load <4 x i32>, <4 x i32>* %116, align 4, !tbaa !11 %117 = getelementptr inbounds i32, i32* %115, i64 4 %118 = bitcast i32* %117 to <4 x i32>*%wide.load579.epil = load $<4 \times i32>$, $<4 \times i32>* %118$, align 4, !tbaa !11 %119 = getelementptr inbounds i32, i32* %79, i64 %offset.idx.epil %120 = bitcast i32* %119 to <4 x i32>*%wide.load580.epil = load $<4 \times i32>$, $<4 \times i32>* %120$, align 4, !tbaa !11 %121 = getelementptr inbounds i32, i32* %119, i64 4 %122 = bitcast i32* %121 to <4 x i32>*%wide.load581.epil = load $<4 \times i32>$, $<4 \times i32>* %122$, align 4, !tbaa !11 $\%123 = add \, nsw < 4 \, x \, i32 > \%wide.load580.epil, \%wide.load.epil$ %124 = add nsw < 4 x i32 > %wide.load581.epil, %wide.load579.epil%125 = icmp sgt <4 x i32> %123, %vec.phi.unr $%126 = icmp \, sgt < 4 \, x \, i32 > %124, %vec.phi578.unr$ $%127 = \text{select} < 4 \times i1 > %125, < 4 \times i32 > %123, < 4 \times i32 > %vec.phi.unr$ %128 = select $<4 \times i1> %126, <math><4 \times i32> %124, <4 \times i32> %vec.phi578.unr$ br label %middle.block middle.block: %.lcssa584 = phi <4 x i32> [%.lcssa584.ph, %middle.block.unr-lcssa], [... %127, %vector.body.epil] $\%.lcssa583 = phi < 4 \times i32 > [\%.lcssa583.ph, \%middle.block.unr-lcssa], [$... %128, %vector.body.epil] %rdx.minmax.cmp = icmp sgt <4 x i32> %.lcssa584, %.lcssa583 %rdx.minmax.select = select <4 x i1> %rdx.minmax.cmp, <4 x i32> %.lcssa584 .. <4 x i32> %.lcssa583 %129 = call i32 @llvm.vector.reduce.smax.v4i32(<4 x i32> %rdx.minmax.select) %cmp.n = icmp eq i64 %82, %n.vec br i1 %cmp.n, label %for.end241, label %for.body229.preheader582 for.body229.preheader582: %indvars.iv562.ph = phi i64 [1, %for.body229.preheader], [%ind.end, .. %middle.block] %xme.0548.ph = phi i32 [-987654321, %for.body229.preheader], [%129, ... %middle.block] br label %for.body229 for.body229: %indvars.iv562 = phi i64 [%indvars.iv.next563, %for.body229], [... %indvars.iv562.ph, %for.body229.preheader582] %xme.0548 = phi i32 [%spec.select536, %for.body229], [%xme.0548.ph, ... %for.body229.preheader582] %arrayidx231 = getelementptr inbounds i32, i32* %78, i64 %indvars.iv562 %130 = load i32, i32* %arrayidx231, align 4, !tbaa !11 %arrayidx233 = getelementptr inbounds i32, i32* %79, i64 %indvars.iv562 %131 = load i32, i32* %arrayidx233, align 4, !tbaa !11 %add234 = add nsw i32 %131, %130 %cmp235 = icmp sgt i32 %add234, %xme.0548 %spec.select536 = select i1 %cmp235, i32 %add234, i32 %xme.0548 %indvars.iv.next563 = add nuw nsw i64 %indvars.iv562, 1 %exitcond566.not = icmp eq i64 %indvars.iv.next563, %wide.trip.count565 br i1 %exitcond566.not, label %for.end241, label %for.body229, !llvm.loop!28 for.end241: %xme.0.lcssa = phi i32 [-987654321, %for.end204], [%129, %middle.block], ... [%spec.select536, %for.body229] %arrayidx244 = getelementptr inbounds i32, i32* %75, i64 1 store i32 %xme.0.lcssa, i32* %arrayidx244, align 4, !tbaa !11 %arrayidx247 = getelementptr inbounds i32, i32* %75, i64 3 store i32 -987654321, i32* %arrayidx247, align 4, !tbaa !11 %arrayidx251 = getelementptr inbounds i32, i32* %73, i64 3 %132 = load i32, i32* %arrayidx251, align 4, !tbaa !11 %133 = load i32, i32* %arrayidx254, align 4, !tbaa !11 %add255 = add nsw i32 %133, %132 %cmp256 = icmp sgt i32 %add255, -987654321 %spec.store.select541 = select i1 %cmp256, i32 %add255, i32 -987654321 store i32 %spec.store.select541, i32* %arrayidx247, align 4 %134 = load i32, i32* %arrayidx268, align 4, !tbaa !11 %add269 = add nsw i32 %134, %xme.0.lcssa %cmp273 = icmp sgt i32 %add269, %spec.store.select541 %spec.store.select542 = select i1 %cmp273, i32 %add269, i32 ... %spec.store.select541 store i32 %spec.store.select542, i32* %arrayidx247, align 4 store i32 -987654321, i32* %75, align 4, !tbaa !11 %135 = load i32, i32* %arrayidx4, align 8, !tbaa !11 %add289 = add nsw i32 %135, %spec.store.select553 %cmp290 = icmp sgt i32 %add289, -987654321 %spec.store.select537 = select i1 %cmp290, i32 %add289, i32 -987654321 store i32 %spec.store.select537, i32* %75, align 4 %136 = load i32**, i32*** %xmx, align 8, !tbaa !10 %arrayidx298 = getelementptr inbounds i32*, i32** %136, i64 %indvars.iv567 %137 = load i32*, i32** %arrayidx298, align 8, !tbaa !10 %arrayidx299 = getelementptr inbounds i32, i32* %137, i64 3 %138 = load i32, i32* %arrayidx299, align 4, !tbaa !11 %139 = load i32, i32* %arrayidx302, align 8, !tbaa !11 %add303 = add nsw i32 %139, %138 %140 = load i32, i32* %137, align 4, !tbaa !11 %cmp307 = icmp sgt i32 %add303, %140 br i1 %cmp307, label %if.then309, label %if.end313 F if.then309: store i32 %add303, i32* %137, align 4, !tbaa !11 br label %if.end313 if.end313: %arrayidx316 = getelementptr inbounds i32, i32* %137, i64 2 store i32 -987654321, i32* %arrayidx316, align 4, !tbaa !11 %arrayidx319 = getelementptr inbounds i32*, i32** %136, i64 %37 %141 = load i32*, i32** %arrayidx319, align 8, !tbaa !10 %arrayidx320 = getelementptr inbounds i32, i32* %141, i64 2 %142 = load i32, i32* %arrayidx320, align 4, !tbaa !11 %143 = load i32, i32* %arrayidx323, align 4, !tbaa !11 %add324 = add nsw i32 %143, %142 %cmp325 = icmp sgt i32 %add324, -987654321 %spec.store.select554 = select i1 %cmp325, i32 %add324, i32 -987654321 store i32 %spec.store.select554, i32* %arrayidx316, align 4 %arrayidx334 = getelementptr inbounds i32, i32* %137, i64 1 %144 = load i32, i32* %arrayidx334, align 4, !tbaa !11 %145 = load i32, i32* %arrayidx337, align 8, !tbaa !11 %add338 = add nsw i32 %145, %144 %cmp342 = icmp sgt i32 %add338, %spec.store.select554 %spec.store.select555 = select i1 %cmp342, i32 %add338, i32 .. %spec.store.select554 store i32 %spec.store.select555, i32* %arrayidx316, align 4 %indvars.iv.next568 = add nuw nsw i64 %indvars.iv567, 1 %exitcond572.not = icmp eq i64 %indvars.iv.next568, %wide.trip.count571 br i1 %exitcond572.not, label %for.end351, label ... %if.end313.for.body38 crit edge, !llvm.loop !30 F for.end351: call void @llvm.lifetime.end.p0i8(i64 8, i8* nonnull %3) #8 if.end313.for.body38 crit edge: call void @llvm.lifetime.end.p0i8(i64 8, i8* nonnull %2) #8 %.pre = load i32*, i $\bar{3}2**\bar{}$ %arrayidx298, align 8, !tbaa !10 call void @llvm.lifetime.end.p0i8(i64 8, i8* nonnull %1) #8 br label %for.body38 call void @llvm.lifetime.end.p0i8(i64 8, i8* nonnull %0) #8 ret i32 0 CFG for 'P7Viterbi' function